ATTACHMENT 7, ECONOMIC ANALYSIS: WATER SUPPLY COSTS AND BENEFITS

I. Introduction

Cosumnes American Bear Yuba (CABY) is a collaborative planning effort that adopted an Integrated Regional Water Management Plan (IRWMP) in December 2006. Diverse stakeholder involvement was a priority from the beginning and CABY comprises more than 30 organizations, representing water supply, conservation, recreation, agriculture, and community interests, as well as federal and local government agencies. Many of the communities participating in the planning effort are small and rural with concentrations of disadvantaged groups.

The CABY region comprises four watersheds—the Cosumnes, American, Bear, and Yuba—which combine to form a major drainage area of the western slope of the Sierra Nevada range, from the mountain crest to the Central Valley. The collective streams, rivers, lakes, and reservoirs of these watersheds flow into the Sacramento River and are a major source of fresh water for the State of California.

The CABY planning effort seeks a sustainable water management program that meets water needs and demands without compromising the natural environment. The CABY partners and water agencies recognize the value of investing in a diverse water supply portfolio that emphasizes efficiency and improves reliability in the face of droughts, emergencies, and global warming. The projects included in this CABY application under the Proposition 84 Implementation Grant solicitation reflect theses goals:

1. Provide safe, reliable and efficient water infrastructure in order to meet the basic and immediate water supply needs within underserved populations in the CABY region.
2. Ensure equitable water service levels within small, rural and/or disadvantaged communities.
3. Proactively prepare for drought or water shortage conditions in small, rural and disadvantaged communities by building the institutional capacity of these communities.
4. Implement projects which will result in immediate water savings and improve system efficiency to increase resiliency to drought and water shortages.
5. Facilitate open exchange of project specific information for the benefit of other similar communities across the CABY region and the State.

To meet these goals, the projects include multiple infrastructure enhancement, conservation, and planning initiatives. They are sponsored by five organizations: Washington County Water District, Nevada City, the Placer County Water Agency, Grizzly Flats Community Services District, and American Rivers. The majority of the projects would meet the urgent needs of high-priority CABY regional constituents: small, rural, and disadvantaged communities.

If funded, the projects would improve the functionality and resiliency of the region's water supply. Water supply is broadly comprised of the natural waterways, watersheds and associated ecosystems that produce, store, filter, and convey water for human-use demands and environmental purposes, and the human-built infrastructure—the pipes, pumps, and

reservoirs—that moves water to the places and times where humans demand it. This Attachment presents the costs and water supply-related benefits of the projects.

II. Framework and Methodology

Our estimates of the regional and project-specific water supply-related benefits and costs reflect the marginal, net willingness of Californians to pay, measured in dollars of 2009, for the goods and services that the proposed projects would increase (the benefits) or consume or diminish (the costs).

The proposed projects would yield water supply benefits to the extent that they increase the value of water supply-related goods and services available to Californians. The proposed projects have the potential to increase the value of these goods and services in three ways: by lowering the cost of providing a given supply, by increasing the supply of a given benefit, and by increasing the demand for a given benefit (i.e., making it more valuable). The projects would produce few goods and services directly; instead, they primarily would enhance the supply of capital necessary to provide goods and services.[1] Thus, the proposed projects would produce benefits to the extent that they increase the region's stock of capital, and the quantity or types of goods and services that flow from it. The proposed projects may also produce benefits to the extent that they affect the demand for, and, hence, the value of certain goods and services. Consistent with widely accepted professional standards, we consider a broad suite of goods and services, including those whose value comes from indirect or non-use of resources (U.S. Environmental Protection Agency 2009, National Research Council 2004, U.S. Environmental Protection Agency 2000).

To estimate benefits, we:

- Worked with each project sponsor, using a with-vs.-without framework, to describe the expected outcome of each project in terms of the expected net increase in the supply of different types of water supply-related goods and services, the avoided costs of project-related activities, and/or the change in the demand for water supply-related goods and services.
- Reviewed the existing economic literature to identify relevant studies that identify the marginal value to Californians of each type of good and service.
- Selected from the existing literature, where appropriate, a reasonable estimate of the per-unit marginal value of each good or service. In completing this step, we first sought studies that directly measure the marginal value of the specific good or service whose supply the project would increase. If such a study was not available, we then sought studies that measure the marginal value of a good or service similar in terms of geographic location, environmental context, and economic context. In all instances we sought studies that have been peer reviewed.

[1] Economists use the term capital to describe resources commonly used to produce things people value (e.g., different types of goods and services). Classifications vary, but most economists generally recognize five types of capital: natural, human-built, human, social, and financial. Natural capital refers to the components of nature, e.g., water, trees, and soil, and the interactions between these components. Human-built capital refers to water-delivery infrastructure, roads, and other tangible goods and infrastructure. Human capital refers to the knowledge and skills embodied in people. Social capital refers to social networks, cultural norms, laws, and political systems. Financial capital refers to money, sources of credit, and stocks traded in markets.

- Adjusted each estimate of per-unit value of a good or service or avoided cost to its equivalent value in 2009 dollars, using the update factors provided in Table 10 of the *Proposition 84 IRWM Implementation Proposal Solicitation Package*. For the years 1997 to 2001, we used the update factors provided by the Department of Water Resources in the *Frequently Asked Questions: Proposition 84 Implementation Grant Program (Round 1)* document, released December 3, 2010.
- Estimated the annual value of the expected increase in the supply of each type of good or service by multiplying the expected annual increase in the supply times the per-unit value, in 2009 dollars. For avoided costs, we used information from project sponsors to estimate the value of costs the project would reduce or eliminate.
- Assessed the uncertainty embodied in each estimate of annual value for each type of good or service, and determined if it is reasonable to conclude that it offers an unbiased representation of the true value of the good or service. In all cases, we selected an estimate of per-unit value that more likely than not yields an *underestimate of the true value* of a project's benefits.
- Completed an internal review process, to ensure the information we provide gives a reasonable description of the costs and benefits for each project and for the CABY Proposal as a whole.

To estimate costs—for example, projected expenditures on capital, operations, and maintenance activities—we relied on information provided by project sponsors, following the guidelines presented in the Proposition 84 IRWM Implementation Proposal Solicitation Package (California Department of Water Resources 2010). Consistent with those guidelines, the cost estimates represent the full cost of the project, inclusive of capital, operations, and maintenance costs, and the opportunity cost of any volunteer labor, land, and other donated inputs required to implement the project.

The regional water-supply-related benefits and costs of the proposal, as a whole, are described in Section III, below. The benefits and costs of each project are described in detail in Section IV, below. Many of the projects would produce similar types of benefits. To avoid redundancy, where possible, we have included a complete discussion of the assumptions, sources, and factors contributing to uncertainty for particular economic benefits in the regional costs and benefits section, and refer to it in the discussion of each project-level benefit. Each project-level narrative contains a basic description of each benefit it would produce, which outlines the mechanisms, level of effects, and sources of uncertainty specific to each project. To ensure consistency across similar benefits for each project, the benefit descriptions share similar language from project to project. While this contributes some redundancy to the overall narrative, it is necessary to ensure each project's benefits are described completely.

III. Narrative Description: Regional Costs and Benefits

This section presents the total value of costs and water supply-related benefits that would be generated by the suite of projects proposed for the CABY region. In it, we also describe the methodologies and assumptions we use to estimate the project-level benefits, where economic quantification was possible. For each regional-level benefit, we describe sources of uncertainty and how the uncertainty might influence the direction and magnitude of the benefit or cost.

A. Regional Project Costs

The present value of the costs for all projects proposed for the CABY region totals $3,637,375 in 2009 dollars, discounted at a rate of 6 percent per year. This value includes all costs required to complete the projects as described, and generate the benefits identified in the next section. To the fullest extent available data allow, costs include both financial and non-financial contributions of resources from public and private sources.

We identified the costs, reported for each project in Tables 11-A through 11–E, based on information provided by project sponsors. In most cases, costs were provided as monetary estimates, which we took as given. For in-kind or voluntary labor, donated land, and donated materials, we either applied a value provided by the project sponsor, or developed an appropriate estimate of the opportunity cost of the resource. For example, unless project sponsors provided another, more appropriate estimate based on an equivalent professional wage, we have valued the opportunity cost of voluntary labor using the current minimum wage, $8.00 per hour, in California, California Department of Industrial Relations 2008), plus an additional 12 percent to include fringe benefits, for a total wage of $8.96 per hour (Pocock and Barker 2005).

B. Total Regional Water Supply-Related Benefits

The present value of the regional water supply-related benefits for all projects proposed for the CABY region totals $1,008,292 in 2009 dollars, discounted at a rate of 6 percent per year. This value includes the benefits generated in two categories: annual water supply benefits (Table 12), and other annual water supply benefits (Table 14). The projects would not produce benefits by avoiding costs associated with other water-supply-related projects. The annual water-supply benefits are calculated in Tables 12-A through 12-E, presented at the end of this Attachment. The annual other water-supply-related benefits are calculated in Tables 14–A through 14–E, presented at the end of this Attachment. The total water-supply-related benefits are calculated in Tables 15–A through 15–E, presented at the end of this Attachment.

1. Annual Water Supply Benefits

Proposed projects would generate water-supply benefits by increasing the supply of water available to meet the demand of Californians, by enabling Californians to obtain water at a lower cost, and by lowering Californians' demand for water or increasing their demand for other water-related goods and services.

Increased Instream Flow for Municipal, Environmental, or Other Purposes (Quantifiable). In the first year of implementation, four projects would generate 180 acre-feet per year of instream flow for municipal, environmental and other purposes:

- Nevada City
- Washington County Water District
- Grizzly Flats Community Services District
- Placer County Water Agency (Alta & Colfax)

Most of the increases in supply resulting from these projects would occur as higher instream flows during low-flow periods, which typically occur between June and October. These

higher flows would improve ecosystems and increase their ability to provide goods and services, such as fish habitat and instream recreation. The expected duration of the benefit would depend on the expected life of each project, which varies by project. Specific assumptions for each project are detailed in Section IV.

An economic analysis of water transactions between 1990 and 2003 found that the median price paid in California to acquire water for environmental purposes was $75 per acre-foot, the median price paid to acquire water for agricultural purposes was $53 per acre-foot, and the median price paid to acquire water for municipal purposes was $112 per acre-foot (Brown 2007). An analysis of the value of water for hydropower produced in systems on the Yuba and Bear Rivers found that, on average, an acre-foot of water would produce hydropower valued at $37 per year (Stewart 1996). Depending on what the water's ultimate use would be if left in stream, use—individually or an average, as appropriate—to measure the value of additional water for instream flows. In some cases, the water could be used multiple times for multiple purposes as it flows downstream, assuming it is not consumed entirely by municipal or agricultural users—a circumstance our analysis does not account for. The median value is a better estimator of the true willingness to pay for water supplies than the mean, insofar as some transactions exhibiting extreme values are distorted by political and other factors.

The values we derive from the findings of Brown (2007) embody the uncertainty inherent in the individual study as well as from applying results from past research to future conditions. There is, however, no obvious reason to conclude that the estimate systematically overestimates or underestimates the true marginal value of water for instream flow in the CABY region. As human populations and incomes grow in California, the marginal value of wild salmonid populations and other benefits derived from instream flows for environmental purposes is likely to increase, as will the value of stream flows that support their continued existence. Because we found no reliable estimate of the rate of increase, we did not fold this increase into our estimates. To the extent that the water is used multiple times as it flows downstream—for hydropower production, then ecosystem enhancement, then municipal use, for example—applying a single value may underestimate the water's total value if left instream. For these reasons, it seems reasonable to conclude that the value estimates we apply in this analysis underestimate—perhaps substantially—the true value of future increases in water supplies that would result from the proposed projects. The ongoing development of state-level instream flow policy may create additional regulatory pressure for maintaining or increasing instream flows, potentially further increasing the demand for instream flows above these estimates.

Multiplying the estimated acre-feet of instream flows the projects would generate by the appropriate per-acre-foot value described above, we estimate that the total present value of this benefit at the regional level, in 2009 dollars discounted at 6 percent per year, over the life of the project or a period of 50 years (whichever is less), would be $94,061. This value underestimates the benefits, to the extent that it does not include the value of flows for which sufficient data are unavailable to estimate.

The beneficiaries of this benefit would include several groups of stakeholders, depending on the intermediate and ultimate uses of the water, including agricultural and municipal users; those who depend on electricity produced in the region's hydropower facilities; those who value, directly or indirectly, an improvement in fish habitat; recreational users of water,

such as kayakers and wildlife watchers; Californians who place a non-use value on maintaining sufficient instream flows for environmental purposes; and other water users, such as irrigators, who bear increased regulatory pressure and costs to increase instream flows by reducing their own use of water.

Increased Water for Wildfire-Fighting Purposes (Unquantifiable). The Grizzly Flats Community Services District project would provide additional water for wildfire-fighting purposes by increasing the annual storage capacity of its pretreatment reservoir and reducing annual water demand, especially during summer months when reservoir levels typically drop below a useful capacity to provide water for fighting wildfires in the region. This benefit is unquantifiable, but would produce value to the extent that it reduces the costs to bring in water from other sources to fight wildfires, reduces the costs of delays in responding to wildfire situations, and wildfire-related damage.

The beneficiaries of this benefit would include local, state, and federal wildfire responders, and property owners who depend on the water for protection in the event of a wildfire.

Avoided Cost of Water-Supply Purchases (Quantifiable). The Nevada City project would result in avoided costs of water-supply purchases with a total present value of $100,777, in 2009 dollars, discounted at 6 percent per year. The specific assumptions are detailed in the description of this benefit in Section IV.

The beneficiaries of this benefit would include Nevada City's water-supply operators and customers.

2. Other Annual Water-Supply Benefits

Reduced Operations Costs (Quantifiable). Four projects would avoid water-supply operations costs. The quantifiable portion of these costs represent a total present value of $456,327, in 2009 dollars, discounted at 6 percent per year:

- Nevada City
- Washington County Water District
- Grizzly Flats Community Services District
- Placer County Water Agency (Alta & Colfax)

The specific assumptions regarding how each project would allow its water system managers to avoid water supply operations costs are detailed for each project in Section IV. Both projects would reduce operations costs by identifying and repairing leaks in the water system infrastructure. The actual operations-cost savings in any given year would depend on the specific number of leaks that occur, the degree of damage they cause, and the volume they discharge. There is, however, no obvious reason to conclude that the estimate systematically overestimates the quantifiable portion of the avoided water supply operations costs. It underestimates the costs, to the extent that it does not include the avoided costs for which sufficient data are unavailable to estimate.

Beneficiaries of this benefit would include the ratepayers in each system.

Reduced Water-Treatment Costs (Quantifiable and Unquantifiable). Four projects would avoid water-treatment costs (both chemicals and electricity). The quantifiable portion of these costs represent a total present value of $109,741, in 2009 dollars, discounted at 6 percent per year:

- Nevada City
- Washington County Water District
- Grizzly Flats Community Services District
- Placer County Water Agency (Alta & Colfax)

The specific assumptions regarding how each project would avoid water-treatment costs are detailed for each project in Section IV. The projects would reduce water-treatment costs by identifying and repairing leaks in the water system infrastructure, and providing water-efficient plumbing retrofits to customers, reducing the total amount of water that needs to be treated each year. The actual treatment-cost savings in any given year would depend on the specific number of leaks that occur and the installation rate of water-efficient plumbing devices. There is, however, no obvious reason to conclude that the estimate systematically overestimates the avoided water-treatment costs. More likely, it underestimates the level of benefit, to the extent that we only directly value the water-treatment saves from leaks and water-efficient plumbing devices during their expected life. Should leak detection programs and conservation-education efforts lead to greater or longer-term water savings, the benefit would be greater than described here.

Beneficiaries of this benefit would include the operators and ratepayers in each system.

Avoided Costs Associated with Improvements in Water Reliability (Quantifiable). Three projects would enable Californians to avoid costs associated with disruptions in water supply resulting from inadequate system capacity and future drought response actions. The quantifiable portion of these costs represents a total present value of $232,878, in 2009 dollars, discounted at 6 percent per year:

- Nevada City
- Washington County Water District
- Grizzly Flats Community Services District

The specific assumptions regarding how each project would avoid costs by improving water-supply reliability for customers are detailed for each project in Section IV. Research conducted in California by the California Urban Water Agencies (Barakat and Chamberlin, Inc. 1994) indicate that Californians are willing to pay substantial amounts to avoid water shortages and improve their water-supply reliability. The willingness to pay estimates ranged from $200 per household per year to avoid a water-shortage reduction of 20 percent once every 30 years, to $281 per household per year to avoid a water-shortage reduction of 50 percent once every 20 years. We apply the values from this study to estimate the benefits resulting from each project's effect on water-supply reliability. The quantifiable portion of these benefits likely underestimates the full value of the benefit, to the extent that future changes in climate are likely to increase the frequency and duration of drought events, and to the extent that the local population continues to grow, increasing demand for limited

water supplies, and to the extent that the population growth itself would increase the number of households willing to pay to reduce the probability of experiencing water-shortages. Data are unavailable to produce credible estimates of these changes, so we do not fold them in to our assumptions when we calculate this benefit.

Beneficiaries of this benefit would include the operators and ratepayers in each system.

Avoided Costs Associated with Infrastructure Failure (Unquantifiable). Four projects would enable customers and water-system operators to avoid costs associated with service disruptions and emergency repairs resulting from infrastructure failure:

- Nevada City
- Washington County Water District
- Grizzly Flats Community Services District
- Placer County Water Agency (Alta & Colfax)

The specific assumptions regarding nature of each project's avoided costs are detailed for each project in Section IV. Data are unavailable to quantify the avoided costs of a service disruption or emergency repairs resulting from infrastructure failure, but they would vary depending on the nature of the failure and the context within which it occurs (e.g., underground or above ground, in a populated or unpopulated area, etc.) Direct costs incurred during large leak events include labor, equipment, and materials, which can be more expensive when employed or acquired in emergency circumstances. Should a failure of infrastructure require Nevada City or its customers to provision an emergency water supply, additional costs would accrue. Direct costs would also include the administrative and operations costs that would materialize as water supply-system staff respond to the issues arising from the failure and associated repairs and service disruption. Indirect costs would also include the costs customers would incur by not having access to water in their homes and businesses, or the costs associated with not having water available for medical, fire-fighting, or other essential services. The existing data are insufficient to estimate these costs, but research in California and other places suggests they are likely to be substantially greater than the direct costs associated with provisioning emergency water supplies (Kunreuther, Cyr, Grossi and Tao 2001).

Beneficiaries of this benefit would include the ratepayers in each system, and permanent and transitory customers (e.g., visitors to the community who would not have access to water or services dependent on water).

Reduced Long-Term Capital Improvement Costs (Unquantifiable). Four projects would have the potential to reduce the costs associated with long-term capital improvements to community water-supply systems:

- Nevada City
- Washington County Water District
- Grizzly Flats Community Services District
- Placer County Water Agency (Alta & Colfax)

The specific assumptions regarding nature of each project's reduced costs are detailed for each project in Section IV. By planning for capital improvements, rather than making ad-hoc investments as needed, or not making improvements in the water-system when they are required, this component of the projects would have the potential to lower the costs of system-operation over the long term. The projects would produce these benefits by increase the availability of information and supporting planning efforts to address operations, conservation, drought, and capital improvement strategies.

Beneficiaries of this benefit would include the operators and ratepayers in each system.

IV. Narrative Description: Individual Project Costs and Benefits

This section includes a narrative description for each project, of the relevant environmental and economic conditions with and without the project, the project's costs and its water supply-related benefits.

A. Nevada City

The Nevada City project involves two programs: The Infrastructure Reliability, Conservation and Efficiency Program and The Integrated Water-Shortage Contingency, Drought Preparedness, and Comprehensive Water-Conservation Program. The proposed project has these elements:

Infrastructure Reliability, Conservation and Efficiency Program	Integrated Water-Shortage Contingency, Drought Preparedness, and Comprehensive Water-Conservation Program
Gracie Street Intertie	Water Shortage Response Feasibility Study and Action Plan
South Pine Distribution System Improvement	Integrated Capital Improvement Needs Assessment
Park Avenue Distribution System Improvement	Customer-based Conservation Implementation
Prospect Street Distribution System Improvement	Plumbing Fixture Retrofit Program Implementation
Installation of Altitude Valves and SCADA System on Storage Tanks	Comprehensive Drought Preparedness Plan
Leak Detection and Repair	
Installation of Water Meters on City Facilities	

1. Project Description and Without-Project Conditions

Physical Infrastructure Improvements. The project would upgrade the infrastructure at these facilities: Gracie Street Intertie, South Pine Distribution System, Park Avenue Distribution, and Prospect Street Distribution System. It would also install altitude valves and a SCADA system on the system's storage tanks, and install water meters on city facilities. Without these improvements, Nevada City's water-supply infrastructure would continue to provide sub-optimal service to its customers, including a water-pressure level below that required by California regulations. As currently operated, the storage tanks cannot achieve their maximum storage capacity because filling all three cannot be accomplished without experiencing spills. Inadequate system capacity during peak demand periods would continue to reduce the reliability of sufficient water pressure for fire-fighting and provide inadequate pressure for some customers. Aging infrastructure would continue to pose risks of failure, which could result in prolonged service disruptions and expensive emergency repairs. Information about water use in some areas without meters would continue to be unavailable, reducing system managers' ability to effectively and efficiently operate the system and prioritize future capital improvements.

Leak Detection and Repair. This portion of the project would provide funding for Nevada City to install a leak-detection system. Without the project, many leaks throughout Nevada City's system would go undetected and unrepaired, reducing the efficiency of the water system and reducing its useable water supply. The current procedure for detecting and identifying the location of leaks involves extensive and labor-intensive surveys, which consume limited resources dedicated to operating the system. Nevada City also would continue to spend its limited resources treating water lost to leakage and not used to directly meet the demands of customers. The system would continue to operate under constant threat of catastrophic leaks and major infrastructure failures, increasing the risk that Nevada City's water-system operators and its customers would face services disruptions and expensive emergency repairs.

Water Shortage Response Feasibility Study and Action Plan, Integrated Capital Improvement Needs Assessment and Comprehensive Conservation and Drought Preparedness Planning. This portion of the project would provide funding for Nevada City to integrate the elements of its capital-improvement program with its conservation and drought-planning efforts. Without the project, Nevada City's water-system operators would have more limited information and options to effectively make decisions and prioritize investments to maximize the benefits of both supply- and demand-side strategies.

Customer-Based Conservation Implementation. This portion of the project would provide Nevada City's water-system customers with information, through workshops and public outreach, based on programs developed by the California Urban Water Conservation Council and the American Water Works Association, to help them reduce their water consumption. Without the project, customers would not have access to this information, and Nevada City's water-system operators would have a more limited range of options to manage its water system, especially in times of water shortage when customer-initiated conservation measures could reduce demands on the available water supply.

Plumbing Fixture Retrofit Program Implementation. This portion of the project would provide funding for Nevada City to distribute 2,700 plumbing retrofit kits to its customers. The plumbing retrofit kits would include faucet aerators, low-flow shower heads, and information about how to displace water in toilet tanks. Without the project, customers would continue to use old and outdated plumbing devices that consume more water than modern fixtures.

We describe the costs and benefits of these individual program elements collectively, as many of their benefits are interdependent.

2. Project Costs

The present value of the project's costs, which would occur between 2011 and 2040, is $1,169,601 in 2009 dollars, discounted at a 6-percent annual rate. These costs would fund labor, planning, equipment, and materials necessary to implement the project. The project would require additional operation and maintenance costs between 2015 and 2040. Table 11-A lists the estimated value of the costs, by category, in the years they would occur, and calculates their total present value.

3. Total Water-Supply-Related Benefits

This project would generate water supply-related benefits as described below. Tables 12-A and 14-A present the value of the benefits, by category, in the years they would occur, and, where sufficient economic data are available, calculates their total present value.

a. Water-Supply Benefits

Avoided Water-Purchase Costs (Quantifiable). By reducing water demand through the installation of water-efficient plumbing retrofit devices, and reducing water consumption by 15 percent by eliminating leaks and spills, the project would allow Nevada City to reduce its total demand for water by 143 acre-feet in the first year of the project. The benefit would diminish over the individual expected lifespan of the each component of the plumbing retrofit kits. The retrofit devices would not necessarily continue to operate at their initial level—some would break, some would be removed, and some would degrade in efficiency. To account for this, we employ the California Urban Water Conservation Council (2005) assumptions for decay rates of retrofit devices over their expected lifespan. For this reason, water savings provided by the project would decrease over the retrofit's life, which averages between 5 and 7 years. The water saved through eliminated spills would persist at least for the life of the SCADA system, estimated at 15 years. The water saved through detecting leaks would persist for the life of the leak-detection system, which is 20 years, although the repaired leaks could produce benefits for the expected life of the repair, which has a 30-year warranty. To avoid overestimating the potential water-supply benefits of this project, we use the minimum project lifespan of 15 years to account for the savings through detecting leaks and preventing spills. The actual water savings and associated benefits almost certainly would accrue for a period greater than 15 years, however data are unavailable to determine at what rate the benefits would diminish as various system components exceed their expected lifespan.

Nevada City purchases a portion of its water from the Nevada Irrigation District (NID). Because Nevada City must pay for 30-acre-feet of water, regardless of actual use, it is only able to reduce its payments for raw water purchases in months that its purchases exceed 30 acre-feet. Typically, these months are July, August, September, and October, when demand is high and available water in Little Deer Creek is low. The City pays an average of $195 per month, per acre-foot above the baseline amount during the summer months when demand for additional water exceeds the baseline.

By reducing water demand, the project would allow Nevada City to purchase less water from NID throughout the year. Assuming the City uses its entire water savings in July through October to reduce its raw water purchases, the City would save an average of 16.8 acre-feet of water per month, or 67 acre-feet per year. Assuming the City pays $195 per acre-foot for these raw water purchases, the City would save $13,092 in the first year of implementation.

This benefit is likely underestimated, as it is based on average water purchases over recent years. Available data indicate demand for water, and, therefore, raw water purchases are increasing. To the extent that the City would continue to increase its water purchases over the 30 acre-foot baseline without the project, the project would save additional future expenses. To the extent that the project's spill prevention, leak

detection, and customer conservation education efforts produce water savings beyond the 5 to 7 and 15 years considered here, which is likely, the project would further save on water-purchases.

The direct beneficiaries of this benefit would be the water system operators and ratepayers in Nevada City.

Increased Instream Flows for Environmental and Other Purposes (Quantifiable). As described above, by reducing leaks and spills and implementing customer conservation measures, the project would save 15 percent of Nevada City's total water consumption, or about 143 acre-feet each year, over the expected life of the project (see describe above regarding assumptions of expected project life). The project would enable Nevada City to divert less water from NID and reduce its water withdrawals from Little Deer Creek. Data are unavailable to determine how much less would be diverted from each source, and it is likely the amount would vary from year to year, depending on conditions in each water source. Water not diverted from either source would initially be left instream. Depending on how NID or water users downstream of Nevada City's diversion in Deer Creek respond to the additional water, it could be left instream for environmental purposes, to produce hydropower, and to support recreation, aquatic habitat, and wildlife habitat. Insufficient information is available to rule out that it also could be diverted for municipal purposes and/or irrigation.

To the extent that the water likely would contribute to fulfilling demands for hydropower production, recreation, and habitat, and water supply elsewhere, we apply a value per-acre foot per year based on the median value of water for its use in municipal, agricultural, environmental, and hydropower purposes in California. The value is $69 per acre-foot, per year.[2]

Several sources of uncertainty may influence the actual value of this benefit. The actual amount of water saved from this project would vary depending on the number and size of leaks and spills the project addresses each year. The specific end-use of the water the project would avoid diverting is impossible to identify, since the water in the NID system and in Little Deer Creek contributes to fulfilling a variety of beneficial uses. As the value of the water is ultimately tied to its end use, the average value we apply could over- or under-estimate its actual value. Despite these factors, there is no obvious reason to conclude that the assumptions employed systematically overestimates the true marginal value of this water.

Without the project, the water that seeps into the ground from leaks does not disappear, but re-enters the environment. The fate of this water is unknown, but depending on where it travels once it leak into the ground, it could contribute to local groundwater and surface water resources elsewhere. By attributing the full amount of instream flow to the project without accounting for the potential that some of the leakage could have been augmenting instream flow, without the project, this could overestimate the true benefit of the project. Data are insufficient to determine whether this is the case, and if it is, to what extent.

[2] For a summary of the assumptions and methodology used to estimate this value, see the regional benefits narrative.

The beneficiaries of this benefit would be Californians who value water in the NID system and in Little Deer Creek, either directly through domestic or agricultural consumption, or indirectly through recreation, watching wildlife, fishing, or other interaction with the water. It also would benefit operators of the NID system, by increasing the amount of water available to allocate to different purposes, thus potentially increasing the flexibility and efficiency of operating the system. To the extent that the water remains instream from the point of diversion to the Sacramento-San Joaquin River Delta, it would benefit recreational users of water, such as whitewater rafters and wildlife watchers, recreational and commercial anglers, as well as Californians who place a non-use value on maintaining sufficient instream flows for environmental purposes.

b. Other Water-Supply Benefits

Reduced Water-Treatment Costs (Quantifiable). As described above, by reducing leaks and spills and implementing customer conservation measures, the project would save 15 percent of Nevada City's total water consumption, or about 143 acre-feet each year, over the expected life of the project (see describe above regarding assumptions of expected project life). By reducing spills and leaks of treated water and by installing water-efficient plumbing retrofits, the project would reduce the costs Nevada City incurs to treat raw water. Assuming the project would save 143 acre-feet of water in the first year of implementation, Nevada City would reduce the amount of raw water it treats by the same amount. Nevada City's variable treatment costs include the cost of chemicals and electricity. The treatment cost is about $77 per acre-foot ($0.0002 per gallon), which would reduce annual water-treatment costs by $11,060 per year in the first year of implementation, and would decrease over the lifespan of the project.

Several sources of uncertainty may influence the actual value of this benefit. The actual amount of water saved from this project could differ from that described above, to the extent that devices last for longer or shorter periods, and to the extent that customers use them as instructed. The assumptions employed above are based on extensive research throughout California, however, so there is no obvious reason to conclude that they systematically overestimate the benefit. The benefit would be greater than described, to the extent that the Customer-based Conservation Implementation program induces customers to change their behavior or install additional systems to conserve more water than the plumbing retrofits directly provided by the project would save.

The direct beneficiaries of this benefit would be the water system operators and ratepayers in Nevada City.

Reduced Operations Costs (Quantifiable). By installing the SCADA and leak detection systems, which enable automated data collection on the water-system, Nevada City would reduce its water-system operations costs. The current operations procedure involves a labor-intensive process of recording and evaluating manual meter readings, sometimes at night or on weekends. The SCADA system would eliminate these manual readings, allow for the download of data on a regular and predictable basis, and improve the management capacity of the city. The City currently spends $150,000 per year on operations and maintenance of the water system and by installing the SCADA and leak-detection systems, the project would save an estimated 10 percent of these

costs, an approximate savings of $15,000 per year. These benefits would persist for the expected lifespan of the SCADA and leak detection systems, which are 15 and 20 years, respectively. Because data are unavailable to estimate the reduced operations costs of each system component, and to avoid overestimating the benefits, we calculate the benefits for a period of 15 years. To the extent that the benefits continue to accrue after 15 years, this benefit represents an underestimate.

The direct beneficiaries of this benefit would be the water system operators and ratepayers in Nevada City.

Avoided Costs Associated with Improvements in Water-Supply Reliability (Quantifiable). The project would initiate several system improvements that would increase the reliability of the system and reduce the likelihood that Nevada City's customers would experience outages or water-supply shortages. Currently, a portion of the downtown area in Nevada City acts as a choke point that compromises the capacity of the City to provide a consistent and even flow of water throughout the service area. The proposed project would reconfigure a key water main distribution line to allow consistent water distribution and improved reliability to all customers. In addition, by installing the SCADA system, the City would have instant control over pressurized flows and accurate timing of water deliveries, which would also incrementally improve water reliability. By developing plans for the City's response to water shortages and for comprehensive drought preparedness, the City would also reduce the likelihood that its customers would face drought-related water shortages.

Research suggests that households prefer non-drought conditions over drought conditions and are willing to pay for increased water supply and water reliability. Research conducted for the California Urban Water Agencies found that households were willing to pay, on average, $213 per year to avoid a 10-percent shortage once every three years and $222 per year to avoid a 30-percent shortage once every thirty years (Barakat and Chamberlin, Inc. 1994).

The project's effects on water supply reliability would incrementally lower the probability that Nevada City's customers would experience water shortages. Data are insufficient to ascribe a specific reduction in probability, but it is not unreasonable to assume, based on historic conditions and expected changes in water demand and supply, that the project could reduce the magnitude of water-supply shortages, even if it does not reduce the probability of a shortage occurring altogether. Therefore, we apply the marginal difference in willingness to pay from the two values reported above—which represents a change in water-supply reliability from a 30-percent reduction once in thirty years to a 10-percent reduction once in three years—to value the improvement in water-supply reliability the project would produce. Using these assumptions, the project would generate benefits for Nevada City's customers and managers valued at $12,150 per year, based on Nevada City's current base of 1,350 customers.

These assumptions likely underestimate the value of this benefit in several ways. Climate change is expected to reduce winter snow pack and summer stream flows the Sierra Nevada, by increasing temperatures and changing precipitation patterns in the region. If these effects of climate change play out as expected, the duration, and magnitude of drought events would be expected to increase over the next century.

Continuing population growth within Nevada City and throughout the region would further increase the demand for water and compound the impacts of the drought scenarios. To the extent that these other factors increase the occurrence, duration, and magnitude of drought-response activations, benefits associated with avoided costs the project would generate could increase over time. The benefit would also increase over time, to the extent that the customer base continues to grow and more households are willing to pay to avoid water shortages.

The beneficiaries of this benefit include the operators and the residential water users in Nevada City.

Avoided Costs Associated with Infrastructure Failure (Unquantifiable). By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring. Left undetected, especially over several years, small leaks that would be relatively easy and inexpensive to repair may grow into major leaks that have the potential to damage infrastructure, disrupt service to some customers, and cost much more to resolve. Direct costs incurred during large leak events include labor, equipment, and materials, which can be more expensive when employed or acquired in emergency circumstances. Should a failure of infrastructure require Nevada City or its customers to provision an emergency water supply, additional costs would accrue. Direct costs would also include the administrative and operations costs that would materialize as water supply-system staff respond to the issues arising from the failure and associated repairs and service disruption. Indirect costs would include the costs customers would incur by not having access to water in their homes and businesses, or the costs associated with not having water available for medical, fire-fighting, or other essential services. The existing data are insufficient to estimate these costs, but research in California and other places suggests they are likely to be substantially greater than the direct costs associated with provisioning emergency water supplies (Kunreuther, Cyr, Grossi and Tao 2001).

The values of these avoided costs are impossible to estimate with accuracy, given the uncertainty surrounding the probability of a catastrophic leak or other failure of infrastructure occurring in any given year, the damage it would cause, and the specific costs associated with repairing it, which could widely vary depending on its timing and location.

The direct beneficiaries of this benefit would be the water system operators and ratepayers in Nevada City.

Reduced Long-Term Capital Improvement Costs (Unquantifiable). By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available about the system, the project would have the potential to reduce Nevada City's long-term capital improvement costs. Specifically, by providing up-to-date information about the types, quantities, and locations of leaks throughout the system over time, the project would allow Nevada City's operators to coordinate and prioritize repairs and upgrades, which could maximize the benefits that can be achieved through limited resources available for capital improvements. By reducing the amount of water moving through the treatment plant each year, the project could have a small effect on the timing of major upgrades of equipment, not otherwise included in the

reduced treatment costs described above. Available data are insufficient to quantify these benefits with any level of accuracy or reliability, however, they would accrue gradually over the life of the project, and would have long-term effects on Nevada City's operating costs.

The direct beneficiaries of this benefit would be the water system operators and ratepayers in Nevada City.

Please see Attachment 8 for the water-quality and other benefits this project would generate.

B. Washington County Water District

The Washington County Water District (WCWD) project involves two programs: The Infrastructure Reliability, Conservation and Efficiency Program and The Integrated Water-Shortage Contingency, Drought Preparedness, and Comprehensive Water-Conservation Program. The proposed project has these elements:

Infrastructure Reliability, Conservation and Efficiency Program	Integrated Water-Shortage Contingency, Drought Preparedness, and Comprehensive Water-Conservation Program
Maybert Road Distribution Line Improvements	Water Shortage Response Feasibility Study and Action Plan
Relief Hill Road Flow Control Pressure Improvements	Integrated Capital Improvement Needs Assessment
"Level-control" Altitude Valves on Storage Tank	Customer-based Conservation Implementation
System-wide Installation of Water Meters	Plumbing Fixture Retrofit Program Implementation
Leak Detection and Repair Needs Assessment and Feasibility Study	Organizational Needs Assessment
	Comprehensive Drought Preparedness Plan

1. Project Description and Without-Project Conditions

Physical Infrastructure Improvements. The project would upgrade the infrastructure at these facilities: Maybert Road Distribution Line and Relief Hill Road. It would also install altitude valves and a SCADA system on the system's storage tanks, and install water meters throughout the system. Without these improvements, WCWD's water-supply infrastructure would continue to provide sub-optimal service to its customers, including reduced pressure and service disruptions during high-demand periods. Inadequate system capacity during peak demand periods would continue to reduce the reliability of sufficient water pressure for fire fighting. Aging infrastructure would continue to pose risks of catastrophic failure, which could result in service disruptions and expensive emergency repairs. Information about water use throughout the system would continue to be unavailable, reducing system managers' ability to effectively and efficiently operate the system and prioritize future capital improvements.

Water Shortage Response Feasibility Study and Action Plan, Organizational Needs Assessment, Integrated Capital Improvement Needs Assessment and Comprehensive Drought Preparedness Planning. These project components would provide funding for WCWD to initiate major system-wide planning for day-to-day operations and drought preparedness. By implementing these planning processes in concert, it would allow WCWD to strategically integrate the elements of its capital-improvement program with its conservation and drought-planning efforts. Without the project, WCWD water-system operators would have more limited information and options to effectively make decisions and prioritize investments to maximize the benefits of both supply- and demand-side strategies for operating its system.

Customer-Based Conservation Implementation. This portion of the project would provide WCWD's water-system customers with information, through workshops and public outreach, based on programs developed by the California Urban Water Conservation Council and the American Water Works Association, to help them reduce their water consumption. Without the project, customers would not have access to this information, and WCWD's water-system operators would have a more limited range of options to manage its water system, especially in times of water shortage when customer-initiated conservation measures could reduce demands on the available water supply.

Plumbing Fixture Retrofit Program Implementation. This portion of the project would provide funding for Nevada City to distribute 130 plumbing retrofit kits to its customers. The plumbing retrofit kits would include faucet aerators, low-flow showerheads, and toilet displacement devices. Without the project, customers would continue to use old and outdated plumbing devices that consume more water than modern fixtures.

Leak Detection and Repair Needs Assessment and Feasibility Study. This portion of the project would provide funding for WCWD to undertake a leak detection and repair needs assessment and feasibility study. Without the project, WCWD would not have the information it would need to install a leak detection system to monitor and repair leaks more efficiently in the future. This portion of the project also would, where possible, begin to repair leaks that would be easily detectable from visual surface inspection.

We describe the costs and benefits of these individual program elements collectively, as many of the benefits of each program component are interdependent.

2. Project Costs

The present value of the project's costs, which would occur between 2011 and 2035, is $1,197,063 in 2009 dollars, discounted at a 6-percent annual rate. These costs would fund labor, planning, equipment, and materials necessary to implement the project. The project would require additional operation and maintenance costs between 2013 and 2035. Table 11-B lists the estimated value of the costs, by category, in the years they would occur, and calculates their total present value.

3. Total Water-Supply-Related Benefits

This project would generate water supply-related benefits as described below. Tables 12-B and 14-B present the value of the benefits, by category, in the years they would occur, and, where sufficient economic data are available, calculate their total present value.

a. Water-Supply Benefits

Increased Instream Flows for Environmental and Other Purposes (Quantifiable). By installing 130 plumbing retrofit kits, the plumbing fixture retrofit program would keep 1.6 acre-feet of water from being diverted out of Canyon Creek, which flows into the Yuba River, in the first year of implementation. The retrofit devices, however, would not necessarily continue to operate at this level—some would break, some would be removed, and some would degrade in efficiency. To account for this, we employ the California Urban Water Conservation Council (2005) assumptions for decay rates of retrofit devices over their expected lifespan. For this reason, water savings provided by the project would decrease over the retrofit's life, which averages between 5 and 7 years. Initial leak-repair activities could provide additional water-savings, further reducing withdrawals from Canyon Creek. The project sponsor estimates, based on professional judgment, that the initial repairs could save up to 20 percent of the water currently used in the system, but data are unavailable to confirm with certainty the quantify of water that would be saved, so, while potentially substantial, these savings, which could persist for the 30-year warranty on the repairs, remain unquantified.

Water not diverted from Canyon Creek would initially be left instream. Depending on how water users downstream of WCWD's diversion from Canyon Creek respond to the additional water, it could be left instream for environmental purposes, and to support recreation, aquatic habitat, and wildlife habitat. Insufficient information is available to rule out that it also could be diverted for municipal purposes and/or irrigation.

To the extent that the water likely would contribute to fulfilling demands for recreation, and habitat, and water supply elsewhere, we apply a value per-acre foot per year based on the median value of water for its use in municipal, agricultural, environmental, and hydropower purposes in California. The value is $69 per acre-foot, per year.[3]

Several sources of uncertainty may influence the actual value of this benefit. The actual amount of water saved from this project would vary depending on the number and size of leaks and spills the project addresses each year. The specific end-use of the water the project would avoid diverting is impossible to identify, since the water in Canyon Creek and downstream waterways contributes to fulfilling a variety of beneficial uses. As the value of the water is ultimately tied to its end use, the average value we apply could over- or under-estimate its actual value. Despite these factors, there is no obvious reason to conclude that the assumptions employed systematically overestimates the true marginal value of this water.

Without the project, the water would seep into the ground from leaks. This water would not disappear, but re-enter the environment. The fate of this water is unknown, but depending on where it travels once it leak into the ground, it could contribute to local groundwater and surface water resources elsewhere. By attributing the full amount of instream flow to the project without accounting for the potential that some of the leakage could have been augmenting instream flow, without the project, this could

[3] For a summary of the assumptions and methodology used to estimate this value, see the regional benefits narrative.

overestimate the true benefit of the project. Data are insufficient to determine whether this is the case, and if it is, to what extent.

The beneficiaries of this benefit would be Californians who value water in and downstream of Canyon Creek, either directly through domestic or agricultural consumption, or indirectly through recreation, watching wildlife, fishing, or other interaction with the water. To the extent that the water remains instream from the point of diversion to the Sacramento-San Joaquin River Delta, it would benefit recreational users of water, such as whitewater rafters and wildlife watchers, recreational and commercial anglers, as well as Californians who place a non-use value on maintaining sufficient instream flows for environmental purposes.

b. Other Water-Supply Benefits

Reduced Water-Treatment Costs (Quantifiable). As described above, installing 130 plumbing retrofit kits, the plumbing fixture retrofit program would reduce demand for treated water by 1.6 acre-feet in the first year of implementation, diminishing over the 5- to 7-year lifespan of the water-saving devices. It costs WCWD $0.0009 in operations, maintenance, and chemicals to treat one gallon of raw water for human consumption. We apply this rate to the water saved by the retrofit devices each year.

Several sources of uncertainty may influence the actual value of this benefit. The actual amount of water saved from this project could differ from that described above, to the extent that devices last for longer or shorter periods, and to the extent that customers use them as instructed. The assumptions employed above are based on extensive research throughout California, however, so there is no obvious reason to conclude that they systematically overestimate or underestimate the benefit. The benefit would be greater than described, to the extent that the initial Leak-Repair program and the Customer-based Conservation Implementation program would induce customers to change their behavior or install additional systems to conserve more water than the plumbing retrofits directly provided by the project would save.

The beneficiaries of these benefits would include the operators and ratepayers of the WCWD water system.

Reduced Operations Costs (Quantifiable). The project would provide funding to support major infrastructure upgrades throughout the WCWD system and install water meters system-wide. These infrastructure improvements would dramatically lower WCWD's annual operations and maintenance costs. By upgrading all of its major system components, WCWD would no longer need to spend time and resources to maintain infrastructure that has long outlasted its useful lifespan. By installing water meters, WCWD would have access to information about water use throughout the system. WCWD would have the capability to monitor flows automatically, which will reduce operations costs associated with costly and unreliable visual inspections for leaks. WCWD's operators estimate they currently spend $32,160 per year on operations costs. The project would reduce these costs by 40 percent annually, or $12,864 per year.

The beneficiaries of these benefits would include the operators and ratepayers of the WCWD water system.

Avoided Costs Associated with Improvements in Water Reliability (Quantifiable). Currently, the Maybert Road and Relief Hill lines serve 32 water customers who have water reliability that does not meet State of California standards of 40 pounds per square inch (PSI). In recent years, during periods of high demand, especially during the summer, three of these residences experience periods (up to 10 days per year) completely without water. One of these homes has threatened to sue the County if conditions do not improve and, while the lawsuit was temporarily avoided, the threat of legal action against WCWD has not disappeared.

The proposed improvements would result in an increase in water pressure sufficient to meet the current state pressure mandate, and ensure reliable service for all of WCWD's customers. The literature suggests there are significant benefits associated with even small increases in water reliability—people are willing to pay considerable amounts to avoid even small water shortages. Values obtained from a survey of residents in California suggest that households would be willing to pay $17.73 per month to avoid a water shortage of 10 percent once every three years (Barakat and Chamberlin, Inc. 1994). They would be willing to pay greater amounts to avoid shortages of greater magnitudes and frequencies. Applying this value, on an annual basis, to the 32 residential customers served by WCWD who would experience significant improvements in the reliability of their water supply from the project's infrastructure improvements, the project would produce an annual benefit of $6,809 per year. To the extent that the project provides improvements in water-supply reliability for its other 60 residential customers, it would produce additional benefits. Data are unavailable to quantify the effect of the project on water-supply reliability for these customers, so we leave this benefit unquantified.

These assumptions likely underestimate the value of this benefit in several ways. Climate change is expected to reduce winter snow pack and summer stream flows the Sierra Nevada, by increasing temperatures and changing precipitation patterns in the region. If these effects of climate change play out as expected, the duration, and magnitude of water-supply disruptions resulting from drought events would be expected to increase over the next century. Continuing population growth within WCWD and throughout the region would further increase the demand for water and compound the impacts of drought. To the extent that these other factors increase the occurrence, duration, and magnitude of drought-response activations, benefits associated with avoided costs the project would generate could increase over time. The benefit would also increase over time, to the extent that the customer base continues to grow and more households are willing to pay to avoid water shortages.

The beneficiaries of this benefit would include the 32 residential customers whose water supply reliability would improve.

Avoided Costs Associated with Infrastructure Failure (Unquantifiable). By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures. Information from meters would allow WCWD to detect that a leak is occurring; reducing the amount of time a leak would remain undetected. Left undetected, especially over several years, small leaks that would be relatively easy and inexpensive to repair may grow into major leaks that have the potential to damage infrastructure, disrupt service to some customers, and cost much more to resolve. Direct costs incurred during large leak events

include labor, equipment, and materials, which can be more expensive when employed or acquired in emergency circumstances. Should a failure of infrastructure require WCWD or its customers to provision an emergency water supply, additional costs would accrue. Direct costs would also include the administrative and operations costs that would materialize as water supply-system staff respond to the issues arising from the failure and associated repairs and service disruption. Indirect costs would include the costs customers would incur by not having access to water in their homes and businesses, or the costs associated with not having water available for medical, fire-fighting, or other essential services. The existing data are insufficient to estimate these costs, but research in California and other places suggests they are likely to be substantially greater than the direct costs associated with provisioning emergency water supplies (Kunreuther, Cyr, Grossi and Tao 2001).

The values of these avoided costs are impossible to estimate with accuracy, given the uncertainty surrounding the probability of a catastrophic leak or other failure of infrastructure occurring in any given year, the damage it would cause, and the specific costs associated with repairing it, which could widely vary depending on its timing and location.

The beneficiaries of these benefits would include the operators and ratepayers of the WCWD water system.

Reduced Long-Term Capital Improvement Costs (Unquantifiable). By increasing the amount of information available about the system and developing integrated plans for operations, drought response, and capital improvements, the project would have the potential to reduce WCWD's long-term capital improvement costs. Available data are insufficient to quantify these benefits with any level of accuracy or reliability, however, they would accrue gradually over the life of the project, and would have long-term effects on WCWD's operating costs.

The beneficiaries of this benefit would include the operators and customers of WCWD.

Please see Attachment 8 for the water-quality and other benefits this project would generate.

C. Grizzly Flats Community Services District

The Grizzly Flats Community Services District (GFCSD) project involves two programs: The Infrastructure Reliability, Conservation and Efficiency Program and The Integrated Water-Shortage Contingency, Drought Preparedness, and Comprehensive Water-Conservation Program. The proposed project has these elements:

Infrastructure Reliability, Conservation and Efficiency Program	Integrated Water-Shortage Contingency, Drought Preparedness, and Comprehensive Water-Conservation Program
Reservoir Lining	Integrated Capital Improvement Needs Assessment
Leak Detection and Repair	Customer-based Conservation Implementation
	Plumbing Fixture Retrofit Program Implementation
	Comprehensive Conservation and Drought Preparedness Plan

1. Project Description and Without-Project Conditions

Present demand for water in the GFCSD system is approximately 130 acre-feet per year (Wood Rodgers 2008). Demand is projected to reach 205 acre-feet per year by 2025 (El Dorado County Water Agency 2007). The safe yield of the system is approximately 144 acre-feet per year (Wood Rodgers 2008). Because water shortages are a real and increasing threat, the GFCSD has initiated drought planning efforts. The GFCSD has a drought plan with three stages: stage 1 requires voluntary reductions in water use of up to 15 percent; stage 2 requires further voluntary reductions in water use of up to 30 percent; stage 3 requires mandatory reductions in water use by 50 percent (Brown and Caldwell, 2007). For the past several years, the district has reached stage 1 conditions during late summer months, and has come very close to implementing stage 2.

As demand for water increases within Grizzly Flats, and water supply becomes more unpredictable as the effects of climate change reduce summer-season stream flows in North Canyon Creek and Big Canyon Creek, the water-system's source watersheds, GFCSD expects to implement the measures outlined in its drought management plan more frequently. GFCSD is considering additional options for increasing the storage capacity of its system, including building an off-stream reservoir. Preliminary planning for system expansion has occurred (Borcalli & Associates 1998 and Wood Rodgers 2008), but there is considerable uncertainty about whether and when GFCSD would undertake construction on such a project. As a necessary precursor to system expansion, GFCSD is proposing to increase the efficiency of its existing system.

This project would support these specific actions:

Reservoir Lining. This portion of the project would provide funding for GFCSD to install a new lining over the base and walls of its pre-treatment reservoir. It would also provide funding to install a 200 gallon-per-minute pump station at the reservoir's outlet and allow the GFCSD to raise the reservoir's overflow pipe. Without the project, more than 16 acre-feet of raw water diverted into the pretreatment reservoir would continue to seep into the ground, through its unlined base and walls. GFCSD would continue to operate its reservoir at reduced capacity to minimize seepage. GFCSD would also continue to spend $14,000 to $20,000 per year in operations costs clearing cattails and other vegetation from in and around the reservoir and incur additional costs to operate its treatment plant to handle increased levels of organic matter and sediment.

Leak Detection and Repair. This portion of the project would provide funding for GFCSD to install a leak-detection system. Without the project, many leaks throughout GFCSD's system would go undetected and unrepaired, reducing the efficiency of the water system. The current procedure for detecting and identifying the location of leaks involves extensive and labor-intensive surveys, which consume limited resources dedicated to operating the system. GFCSD also would continue to spend its limited resources treating water that is not used to directly meet the demands of its customers. The system would continue to operate under constant threat of catastrophic leaks and major infrastructure failures, increasing the risk that GFCSD and its customers would face service disruptions and expensive emergency repairs.

Integrated Capital Improvement Needs Assessment and Comprehensive Conservation and Drought Preparedness Plan. This portion of the project would provide funding for GFCSD to thoroughly map its system using GIS-based techniques, and integrate its capital-improvement program with its conservation and drought-planning efforts. Without the project, GFCSD managers would have more limited information and options to effectively make decisions and prioritize investments to maximize the benefits of both supply and demand-side strategies.

Customer-Based Conservation Implementation. This portion of the project would provide GFCSD's customers with information, through workshops and public outreach, based on programs developed by the California Urban Water Conservation Council and the American Water Works Association, to help them reduce their water consumption. Without the project, customers would not have access to this information, and GFCSD would have a more limited range of options to manage its water system, especially in times of water shortage when customer-initiated conservation measures could reduce demands on the available water supply.

Plumbing Fixture Retrofit Program Implementation. This portion of the project would provide funding for GFCSD to provide 300 plumbing retrofit kits and rebates for 50 ultra-low flush toilets to its customers. The plumbing retrofit kits would include faucet aerators, low-flow shower heads, and toilet displacement devices. Without the project, customers would continue to use old and outdated plumbing devices that consume more water than modern fixtures.

We describe the costs and benefits of these individual program elements collectively, as many of the benefits of each program component are interdependent.

2. Project Costs

The present value of the project's costs, which would occur between 2011 and 2063, is $795,043 in 2009 dollars, discounted at a 6-percent annual rate. These costs would fund labor, planning, equipment, and materials necessary to implement the project. The project would require additional maintenance costs between 2015 and 2063. Table 11-C lists the estimated value of the costs, by category, in the years they would occur, and calculates their total present value.

3. Water-Supply-Related Benefits

This project would generate water supply-related benefits as described below. Table 12-C and 14-C present the value of the benefits, by category, in the years they would occur, and, where sufficient quantitative data are available, calculates their total present value.

a. Water-Supply Benefits

Increased Water Supply for Municipal Purposes (Quantifiable). Project sponsors estimate the project would reduce water seepage from the reservoir, and, hence, increases in usable water supplies, by about 16.2 acre-feet per year under current operations. Project sponsors also estimate that the project would increase the capacity of the reservoir by 5.7 acre-feet per year. Increasing the capacity of the reservoir suggests that 5.7 acre-feet of the water that otherwise would have seeped into the ground without the project would be captured and used to augment GFCSD's water supply.

Given GFCSD's projected demand and available supply from its system, it is likely that this water would be used to meet local demands, especially during the summer months when demand is higher and instream flows in GFCSD's source watersheds are lower. Research from the U.S. Forest Service on water-market transactions in California suggests that the median economic value of water for municipal purposes is $112 per acre foot (Brown 2007).[4] We apply this value to the 5.7 acre-feet of water the project would make available for GFCSD's water supply, over the 50-year lifespan of the reservoir lining.

The assumptions used to develop the estimates described above are based on historic system operations and assume that sufficient water would continue to be available from North Canyon Creek and Big Canyon Creek—GFCSD's source watersheds—to capture.

Without the project, the water that would seep into the ground. This water would not disappear, but re-enter the environment. The fate of this water is unknown, but, depending on where it travels once it seeps into the ground, it could contribute to local groundwater and surface water resources elsewhere. By retaining this water in the reservoir and using it for municipal supply in Grizzly Flats, the project could produce offsetting effects, to the extent that it would reduce the water supply in other times and places available to produce other goods and services.

The beneficiaries of these benefits would include the operators and ratepayers of the GFCSD water system.

Increased Instream Flow for Environmental and Other Purposes (Quantifiable). Project sponsors estimate the project would reduce water seepage through the reservoir's base and walls by about 16.2 acre-feet per year, under current operations. Assuming that 5.7 acre-feet of this seepage is captured by the increased capacity of the reservoir and used to augment GFCSD's existing water supply, an additional 10.5 acre-feet of water would be available to support instream flows. This water could be left instream to increase flows in the Cosumnes River and into the Sacramento-San Joaquin

[4] See Regional-Level Narrative for a complete discussion of the sources, assumptions, and uncertainties associated with this economic value.

River Delta, and support aquatic and wildlife habitat, water quality, instream recreation, and other non-consumptive uses as it flows to the ocean. Insufficient information is available to rule out that it also could be diverted for municipal purposes and/or irrigation.

To the extent that the water likely would contribute to fulfilling demands for recreation, and habitat, and water supply elsewhere, we apply a value per-acre foot per year based on the median value of water for its use in municipal, agricultural, environmental, and hydropower purposes in California. The value is $69 per acre-foot, per year (Brown 2007).[5]

To the extent that reducing leaks and implementing conservation measures further reduce the demand for water, the project could result in additional reductions in GFCSD's annual diversion from North Canyon Creek and Big Canyon Creek. This increase is uncertain, however, as GFCSD anticipates demand to increase beyond the current system capacity by 2025. Thus, although additional increased flows beyond the 10.5 acre-feet identified above remain a possibility, we assume, instead, that the water saved through leak detection and conservation measures would be used to meet future increases in demand from population growth.

The assumptions used to develop the estimates described above are based on historic system operations and assumes that sufficient water would continue to be available from North Canyon Creek and Big Canyon Creek—GFCSD's source watersheds—to remain instream after GFCSD's expected diversions. As climate change is expected to reduce summer snowpack in the Sierra Nevada in the future, this benefit could be somewhat less than estimated here. Data are insufficient to accurately predict the probability of this risk materializing, or to predict when it might materialize.

Without the project, the water that would seep into the ground. This water would not disappear, but re-enter the environment. The fate of this water is unknown, but, depending on where it travels once it seeps into the ground, it could contribute to local groundwater and surface water resources elsewhere. By attributing the full amount of instream flow to the project without accounting for the potential that some of the seepage could have been augmenting instream flow anyway, without the project, this could overestimate the true benefit of the project. Data are insufficient to determine whether this is the case, and if it is, to what extent.

The beneficiaries of this benefit would include users of water downstream of the diversion points. To the extent that the water is diverted from the stream, it could produce benefits for agricultural, municipal, or industrial users. To the extent that the water remains instream from the point of diversion to the Sacramento-San Joaquin River Delta, it would benefit recreational users of water, such as whitewater rafters and wildlife watchers, recreational and commercial anglers, as well as Californians who place a non-use value on maintaining sufficient instream flows for environmental purposes.

[5] For a summary of the assumptions and methodology used to estimate this value, see the regional benefits narrative.

Increased Water Supply for Fighting Wildfires (Unquantifiable). By increasing the annual storage capacity of the pretreatment reservoir by 5.7 acre-feet per year and saving up over 26 acre-feet of water each year through leak detection and repair and conservation initiatives, GFCSD would be able to maintain a reserve supply of water in the pre-treatment reservoir for fighting wildfires. The pre-treatment reservoir is the community's only firefighting resource and firefighting helicopters often use the reservoir during summer months to fight wildfires. Increasing the amount of water remaining in the reservoir during the late summer months would increase the ability of regional wildfire responders to control wildfires in the area surrounding Grizzly Flats. To the extent that the availability of this water reduces or eliminates the need to bring water in from other locations at greater cost, it could reduce the cost of fighting wildfires in the region. To the extent that the availability of this water allows responders to more quickly extinguish fires than would be the case if they had to import water from elsewhere, it could lower costs associated fighting fires and reduce the costs associated with damage to property and ecosystems. Data are not available to estimate the value of this benefit.

The beneficiaries of this benefit would include local, state, and federal wildfire response agencies, and the taxpayers who support them. Additional beneficiaries would include nearby residents whose homes and businesses would be at risk of fires.

b. Other Water-Supply Benefits

Avoided Costs Associated with Improvements in Water Reliability (Quantifiable). Through this project, GFCSD managers would take affirmative action to meet the challenges of growing demands for water, as the area's population grows, while anticipating climate-related reductions in the supply of water. These actions include improving the ability to detect and repair leaks in the system, implementing conservation measures, and enhancing the water-storage capacity of the system. Because water shortages are a real and increasing issue, the GFCSD also has initiated drought-planning efforts, as described in the project background section, above. Project sponsors estimate that, even with this project, it likely would still experience stage 1 conditions in the future, but the likelihood of reaching stage 2 conditions, which require voluntary reductions in water use of up to 30 percent, would decrease.

Implementing these drought stages imposes costs on the operators of GFCSD, to the extent that they must communicate and educate customers of the voluntary water restrictions, and monitor the system closely to ensure conservation goals are being met. Voluntary conservation actions also impose costs on customers, to the extent that they spend time and resources changing their behavior to meet conservation targets, and potentially give up or pay to replace goods and services the conserved water would usually provide. Research suggests that households prefer non-drought conditions to drought conditions and are willing to pay for increased water supply and water reliability. Research conducted for the California Urban Water Agencies found that households were willing to pay, on average, $213 per year to avoid a 10-percent shortage once every three years and $222 per year to avoid a 30-percent shortage once every thirty years (Barakat and Chamberlin, Inc. 1994).

The project's effects on water supply and demand would incrementally lower the probability that GFCSD would initiate drought stage 2, and/or reduce its duration if it is implemented. Data are insufficient to ascribe a specific reduction in probability of drought actions, but it is not unreasonable to assume, based on historic drought-stage activations and expected changes in water demand and supply that the project could avoid a drought stage 2 action from occurring during a 30-year period. It is not likely, however, to reduce the probability of a drought action occurring to zero. Therefore, we apply the marginal difference in willingness to pay from the two values reported above—which represents a change in water-supply reliability from a 30-percent reduction once in thirty years to a 10-percent reduction once in three years—to value the improvement in water-supply reliability the project would produce. Using these assumptions, the project would generate benefits for GFCSD's customers and managers valued at $5,499 per year, based on GFCSD's current base of 611 customers.

These assumptions likely underestimate the value of this benefit in several ways. Climate change is expected to reduce winter snow pack and summer stream flows the Sierra Nevada, by increasing temperatures and changing precipitation patterns in the region. If these effects of climate change play out as expected, the duration, and magnitude of drought events would be expected to increase over the next century. Continuing population growth within GFCSD and throughout the region would further increase the demand for water and compound the impacts of the drought scenarios. To the extent that these other factors increase the occurrence, duration, and magnitude of drought-response activations, benefits associated with avoided costs the project would generate could increase over time. The benefit would also increase over time, to the extent that the customer base continues to grow and more households are willing to pay to avoid water shortages.

The beneficiaries of these benefits would include the operators and ratepayers of the GFCSD water system.

Reduced Operations Costs (Quantifiable and Unquantifiable). After lining the pretreatment reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year because it would no longer need to remove vegetation from in and around the reservoir. This benefit would begin accruing following installation of the liner, and would last for the project's expected life of 40 years.

By installing the leak-detection system, the project would further reduce GFCSD's operations costs associated with its current system of detecting and locating leaks. Data are unavailable to estimate the avoided operations costs associated with the leak detection system, although they could be as high as a 75-percent reduction for some system resources.

The beneficiaries of these benefits would include the operators and ratepayers of the GFCSD water system.

Reduced Water-Treatment Costs (Unquantifiable). After lining the pretreatment reservoir, GFCSD would be able to adjust the way it operates its water treatment plant, reducing its annual water-treatment costs. The liner would prevent vegetative growth in and around the reservoir and would seal off the reservoir's base and walls, decreasing

the amount of sediment and other organic material that mix with the raw water. The water-treatment plant operators currently address organics in the water by periodically backwashing the system to clear debris. During the winter months, water treatment plants typically wait 30 hours between backwashes. In the summer, the time between backwashes is reduced to 8 to 10 hours, due to high levels of organic material in the reservoir's water. The increase in backwash frequency as well as the increase in quantity of water-treatment chemicals add to the costs associated with treating the reservoir's water, especially during spring and summer months. The project would reduce the amount of organic material in the raw water entering the treatment plant, decreasing backwash frequency and the amount of water-treatment chemicals needed to treat the raw water. There are insufficient data to estimate the amount by which the reservoir liner would actually reduce treatment costs, however.

The project also has the potential to reduce GFCSD's water-treatment costs by reducing the total amount of water it needs to treat each year, through reductions in total water demand from the leak detection, plumbing retrofits, and conservation education initiatives. Because we assume that any saved water from these components of the project would be used to alleviate current water shortages during late-summer and meet future demands for water as population grows, however, the extent to which GFCSD would actually treat less water on an annual basis is uncertain. For this reason, we do not estimate the value of this benefit. If reductions in demand for treated water actually do decrease as a result of the project, we would estimate the value of the benefit by multiplying the reduced number of gallons of treated water demanded by GFCSD's treatment costs, which are $.0091 per gallon, including operations, maintenance, and chemicals.

If the cost of treatment inputs, such as chemicals and electricity, rise faster than inflation, as some analysts predict may occur as climate change and regulatory responses to it increase the cost of producing electricity, the value applied above would underestimate the actual cost savings in the future.

The beneficiaries of these benefits would include the operators and ratepayers of the GFCSD water system.

Avoided Costs Associated with Infrastructure Failure (Unquantifiable). By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring. Left undetected, especially over several years, small leaks that would be relatively easy and inexpensive to repair may grow into major leaks that have the potential to damage infrastructure, disrupt service to some customers, and cost much more to resolve. Direct costs incurred during large leak events include labor, equipment, and materials, which can be more expensive when employed or acquired in emergency circumstances. Should a failure of infrastructure require GFCSD or its customers to provision an emergency water supply, additional costs would accrue. Direct costs would also include the administrative and operations costs that would materialize as water supply-system staff respond to the issues arising from the failure and associated repairs and service disruption. Indirect costs would include the costs customers would incur by not having access to water in their homes and businesses, or the costs associated with not having water available for medical, fire-fighting, or other essential services. The existing data are insufficient to estimate these

costs, but research in California and other places suggests they are likely to be substantially greater than the direct costs associated with provisioning emergency water supplies (Kunreuther, Cyr, Grossi and Tao 2001).

The values of these avoided costs are impossible to estimate with accuracy, given the uncertainty surrounding the probability of a catastrophic leak or other failure of infrastructure occurring in any given year, the damage it would cause, and the specific costs associated with repairing it, which could widely vary depending on its timing and location.

The beneficiaries of these benefits would include the operators and ratepayers of the GFCSD water system.

Reduced Long-Term Capital Improvement Costs (Unquantifiable). By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available about the system through GIS mapping and integrated capital improvement, conservation, and drought-response planning, the project would have the potential to reduce GFCSD's long-term capital improvement costs. Specifically, by providing up-to-date information about the types, quantities, and locations of leaks throughout the system over time, the project would allow GFCSD's operators to coordinate and prioritize repairs and upgrades, which could maximize the benefits that can be achieved through limited resources available for capital improvements. By reducing the amount of water moving through the treatment plant each year, the project could also have a small effect on the timing of major upgrades of equipment, not otherwise included in the reduced treatment costs described above. Available data are insufficient to quantify these benefits with any level of accuracy or reliability, however, they would accrue gradually over the life of the project, and would have long-term effects on GFCSD's capital-improvement costs.

The beneficiaries of these benefits would include the operators and ratepayers of the GFCSD water system.

Please see Attachment 8 for the water-quality and other benefits this project would generate.

D. Placer County Water Agency (Alta & Colfax)

The Placer County Water Agency (PCWA) project involves two programs: The Infrastructure Reliability, Conservation and Efficiency Program and The Integrated Water-Shortage Contingency, Drought Preparedness, and Comprehensive Water-Conservation Program. The proposed project has these elements:

Infrastructure Reliability, Conservation and Efficiency Program	Integrated Water-Shortage Contingency, Drought Preparedness, and Comprehensive Water-Conservation Program
Leak Detection and Repair	Customer-based Conservation Implementation
	Plumbing Fixture Retrofit Program Implementation

1. Project Description and Without-Project Conditions

Leak Detection and Repair. This portion of the project would provide funding for PCWA to install a leak-detection system in the communities of Alta and Colfax. Without the project, the communities of Alta and Colfax would continue to lose treated water to leaks throughout their water systems. Estimates developed by the project sponsor using the Water Audit Worksheet from the American Water Works Association suggest that the community of Alta loses around 50 acre-feet annually, and the community of Colfax loses around 118 acre-feet annually.[6] The source and fate of most of the leaking water is unknown. Given the area's porous soils, it likely percolates into the water table or into nearby surface water bodies. The current procedure for detecting and identifying the location of leaks involves extensive and labor-intensive surveys, which consume limited resources dedicated to operating the system. PCWA also would continue to spend its limited resources treating water that is not used to directly meet the demands of its customers. The system would continue to operate under constant threat of catastrophic leaks and major infrastructure failures, increasing the risk that PCWA and its customers would face service disruptions and expensive emergency repairs.

Customer-Based Conservation Implementation. This portion of the project would provide PCWA's customers with information, through workshops and public outreach, based on programs developed by the California Urban Water Conservation Council and the American Water Works Association, to help them reduce their water consumption. Without the project, customers would not have access to this information, and PCWA would have a more limited range of options to manage its water system, especially in times of water shortage when customer-initiated conservation measures could reduce demands on the available water supply.

Plumbing Fixture Retrofit Program Implementation. This portion of the project would provide funding for PCWA to provide 1,500 plumbing retrofit kits to its customers. The plumbing retrofit kits would include faucet aerators, low-flow shower heads, and toilet displacement devices. Without the project, customers would continue to use old and outdated plumbing devices that consume more water than modern fixtures.

We describe the costs and benefits of these individual program elements collectively, as many of the benefits of each program component are interdependent.

2. Project Costs

The present value of the project's costs, which would occur between 2011 and 2018, is $295,813 in 2009 dollars, discounted at a 6-percent annual rate. These costs would fund labor, planning, equipment, and materials necessary to implement the project. The project would require maintenance costs between 2015 and 2018. Table 11-D lists the estimated value of the costs, by category, in the years they would occur, and calculates their total present value.

[6] These numbers represent the average of the real water loss estimates developed for each community in 2006 and 2007.

3. Total Water-Supply-Related Benefits

This project would generate water supply-related benefits as described below. Tables 12-D and 14-D present the value of the benefits, by category, in the years they would occur, and, to the extent economic data are available, calculates their total present value.

a. Water-Supply Benefits

Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes (Quantifiable). By reducing the amount of water lost to leakage throughout the system, the project would allow PCWA to reduce its raw-water diversions, on average, by 60 acre-feet per year. By providing plumbing retrofit devices to its customers, PCWA would be able to reduce its raw-water diversions by an additional 18.5 acre-feet of water in the first year of operation. The retrofit devices, however, would not necessarily continue to operate at this level—some would break, some would be removed, and some would degrade in efficiency. To account for this, we employ the California Urban Water Conservation Council (2005) assumptions for decay rates of retrofit devices over their expected lifespan. For this reason, water savings provided by the project would decrease over the retrofit's life, which averages between 5 and 7 years. The water saved through detecting leaks would persist for the life of the leak-detection system, which is 15 years, although the repaired leaks could produce benefits for the expected life of the repair, which are under warranty for 30 years. To avoid overestimating the potential water-supply benefits of this project, we use the minimum project lifespan of 15 years to account for the savings through detecting leaks. The actual water savings and associated benefits almost certainly would accrue for a period greater than 15 years, however data are unavailable to determine at what rate the benefits would diminish as various system components exceed their expected lifespan.

PCWA obtains its raw water for Alta and Colfax from PG&E's Drum-Spaulding project. PG&E coordinates operation of this project with the Nevada Irrigation District (NID) to provide water for domestic purposes and irrigation, to produce hydropower, and to support recreation, aquatic habitat, and wildlife habitat. Any water not diverted for consumption in Alta and Colfax would remain in the Drum-Spaulding project and likely would contribute to fulfilling demands for hydropower production, recreation, and habitat, and water supply elsewhere. We apply a value per-acre foot per year based on the average value of water for its use in municipal, agricultural, environmental, and hydropower purposes. The average value is $69 per acre-foot, per year.[7]

Several sources of uncertainty may influence the actual value of this benefit. The actual amount of water saved from this project would vary depending on the number and size of the leaks the project addresses each year. It is expected that that amount of water the project would save could be greater than 60 acre-feet in the first few years of the project, and could be less than 60 acre-feet in some years. The specific end-use of the water the project would avoid diverting is impossible to identify, since the water from the Drum-Spaulding project contributes to fulfilling a variety of beneficial uses. As the value of the water is ultimately tied to its end use, the average value we apply could over- or under-estimate its actual value. Despite these factors, there is no obvious reason to conclude

[7] For a summary of the assumptions and methodology used to estimate this value, see the regional benefits narrative.

that the assumptions employed systematically overestimates the true marginal value of this water.

Without the project, the water would seep into the ground. The water would not disappear, but re-enter the environment. The fate of this water is unknown, but depending on where it travels once it leaks into the ground, it could contribute to local groundwater and surface water resources elsewhere. By attributing the full amount of instream flow to the project without accounting for the potential that some of the leakage could have been augmenting instream flow, without the project, this could overestimate the true benefit of the project. Data are insufficient to determine whether this is the case, and if it is, to what extent.

The beneficiaries of this benefit would be Californians who use water from the Drum-Spaulding project, either directly through domestic or agricultural consumption, or indirectly through recreation, watching wildlife, fishing, or other interaction with the water. It would also include Californians who care about increasing instream flows for environmental purposes, even if they never intend to use or enjoy the ecosystem services that the instream flows would help support. It also would benefit operators of the Drum-Spaulding system, by increasing the amount of water available to allocate to different purposes, thus potentially increasing the flexibility and efficiency of operating the system.

By reducing raw water diversions from the Drum-Spaulding project, this project has the potential to contribute to the attainment of the following CALFED Targeted Benefits:

TB 56: Bear River–Supplement flows in the Bear River to improve conditions for all Chinook salmon and steelhead life stages. Provide a flow event of 300 to 500 cfs in dry years.

TB 62: Bear River–Improve water quality conditions to benefit anadromous fish.

b. Other Water-Supply Benefits

Reduced Water-Treatment Costs (Quantifiable). By reducing the amount of water lost to leakage throughout the system, the project would reduce the costs PCWA incurs to treat the raw water it diverts. Assuming the project saves 60 acre-feet of water through detecting and repairing leaks, PCWA would reduce the amount of raw water it treats by 60 acre-feet each year. By reducing the amount of water used through installing water-efficient plumbing retrofit devices, the project would avoid treating an additional 18.5 acre-feet of water in the first year of implementation, and a diminishing amount for the following 6 years of the retrofit devices' lifespan. PCWA's variable treatment costs include the cost of chemicals and electricity. In Alta and Colfax, the treatment cost is about $49 per acre-foot. We calculate the avoided treatment cost by multiplying the treatment cost by the amount of acre-feet the project would avoid treating each year.

Several sources of uncertainty may influence the actual value of this benefit. The actual amount of water saved from this project could differ from that described above, to the extent that devices last for longer or shorter periods, and to the extent that customers use them as instructed. The assumptions employed above are based on extensive research throughout California, however, so there is no obvious reason to conclude that they

systematically overestimate the benefit. The benefit would be greater than described, to the extent that the Customer-based Conservation Implementation program induces customers to change their behavior or install additional systems to conserve more water than the plumbing retrofits directly provided by the project would save.

The beneficiaries of this benefit would include the PCWA's operators and its customers in Alta and Colfax.

Reduced Operations Costs (Quantifiable). By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks. The current (without project) procedure for detecting and identifying the location of leaks involves extensive and labor-intensive surveys. A recent survey involved three staff (two PCWA employees and one contractor) over seven days, which resulted in a total cost of over $13,000 in 2009 dollars. This cost does not include the staff time required to detect the presence of a leak in the system, which involves comparing current water-use data to historical data. This step that is required before a location survey is conducted. Without the project, PCWA would conduct a survey of this magnitude once every five years. With the project, PCWA would not need to conduct these surveys. Instead, data loggers would be able to provide the location of leaks with minimal staff time. The with-project operations costs for detecting and locating leaks are included in Table 11. The project would avoid more than $13,000 in operations costs every five years to locate the source of leaks. This value represents an underestimate, to the extent that it does not capture the staff time required to monitor the system for leaks.

The beneficiaries of this benefit would include the operators PCWA and its customers in Alta and Colfax.

Avoided Costs Associated with Infrastructure Failure (Unquantifiable). By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring. Left undetected, especially over several years, small leaks that would be relatively easy and inexpensive to repair may grow into major leaks that have the potential to damage infrastructure, disrupt service to some customers, and cost much more to resolve. In 2009, PCWA addressed a catastrophic pipe rupture that cost almost $80,000 to repair. Direct costs incurred during large leak events include labor, equipment, and materials, which can be more expensive when employed or acquired in emergency circumstances. Should a failure of infrastructure require GFCSD or its customers to provision an emergency water supply, additional costs would accrue. Direct costs would also include the administrative and operations costs that would materialize as water supply-system staff respond to the issues arising from the failure and associated repairs and service disruption. Indirect costs would include the costs customers would incur by not having access to water in their homes and businesses, or the costs associated with not having water available for medical, fire-fighting, or other essential services. The existing data are insufficient to estimate these costs, but research in California and other places suggests they are likely to be substantially greater than the direct costs associated with provisioning emergency water supplies (Kunreuther, Cyr, Grossi and Tao 2001).

The values of these avoided costs are impossible to estimate with accuracy, given the uncertainty surrounding the probability of a catastrophic leak or other failure of infrastructure occurring in any given year, the damage it would cause, and the specific costs associated with repairing it, which could widely vary depending on its timing and location.

The beneficiaries of this benefit would include the operators PCWA and its customers in Alta and Colfax.

Reduced Long-Term Capital Improvement Costs (Unquantifiable). By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available about the system, the project would have the potential to reduce PCWA's long-term capital improvement costs. Specifically, by providing up-to-date information about the types, quantities, and locations of leaks throughout the system over time, the project would allow PCWA operators to coordinate and prioritize repairs and upgrades, which could maximize the benefits that can be achieved through limited resources available for capital improvements. By reducing the amount of water moving through the treatment plant each year, the project could have a small effect on the timing of major upgrades of equipment, not otherwise included in the reduced treatment costs described above. Available data are insufficient to quantify these benefits with any level of accuracy or reliability, however, they would accrue gradually over the life of the project, and would have long-term effects on PCWA's operating costs.

The beneficiaries of this benefit would include the operators PCWA and its customers in Alta and Colfax.

Please see Attachment 8 for the water-quality and other benefits this project would generate.

E. American Rivers CABY Water Trust

1. Project Description Without-Project Conditions

Through the CABY Water Trust project American Rivers, working in conjunction with other regional stakeholders, would set up an institutional structure in the CABY region with the capacity to purchase or lease water rights from willing sellers and re-dedicate that water to instream flow for environmental purposes. This project arises to position the region so it is prepared to take advantage of anticipated changes in water-management regulations. The State of California is currently developing regulations to establish instream flow requirements, which would place limits on water withdrawals in certain waterways during certain times of the year.

Without the project, state and federal regulators and other stakeholders would rely on existing legal and regulatory mechanisms to ensure that instream flows in the region comply with current and future regulatory standards. These mechanisms typically entail reducing water withdrawals without regard for any economic or practical considerations. This type of enforcement can be time-consuming and costly, and can result in protracted and expensive litigation.

With the project, an institutional framework would exist with the capacity to support the identification of potential supplies of water available from willing sellers, the negotiation of

necessary legal requirements to lease or purchase water, and the identification and prioritization of stream reaches where increased instream flow would produce benefits. The water trust would reduce regulatory costs compared to traditional enforcement mechanisms and would have the potential to produce greater levels of environmental benefits more quickly.

2. Project Costs

The present value of the project's costs, which would occur between 2011 and 2013, is $179,855 in 2009 dollars, discounted at a 6-percent annual rate. These costs would fund labor, planning, equipment, and materials necessary to implement the project. The project would not require additional administrative, operation, maintenance, or replacement costs. Table 11-E lists the estimated value of the costs, by category, in the years they would occur, and calculates their total present value.

Please see Attachment 8 for the water-quality and other benefits this project would generate.

V. References

Barakat & Chamberlin, Inc. 1994. *The Value of Water Supply Reliability: Results of a Contingent Valuation Survey of Residential Customers.* California Urban Water Agencies. August.

Borcalli & Associates. 1998. *Reconnaissance Investigation of Off-Stream Storage.* Grizzly Flats Community Services District, El Dorado County, California. May.

Brown and Caldwell. 2007. *Drought Plan for Grizzly Flats Community Services District.* December.

Brown, T.C. 2007. "The Marginal Economic Value of Streamflow from National Forests: Evidence from Western Water Markets." In: M. Furniss, C. Clifton, and K. Ronnenberg, eds. *Advancing the Fundamental Sciences: Proceedings of the Forest Service National Earth Sciences Conference*, San Diego, CA, 18-22 October 2004. Gen. Tech. Rep. PNW-GTR-689. Portland, OR: U.S. Forest Service, Pacific Northwest Research Station. p. 458-466

California Department of Industrial Relations. 2011. *Minimum Wage.* Retrieved January 3, 2011, from http://www.dir.ca.gov/dlse/faq_minimumwage.htm

California Department of Water Resources, Division of Integrated Regional Water Management. 2010. *Implementation Proposal Solicitation Package, Integrated Regional Water Management, Proposition 84. Round 1.* August.

California Urban Water Conservation Council. 2005. *BMP Costs & Savings Study: A Guide to Data and Methods for Cost-Effectiveness Analysis of Urban Water Conservation Best Management Practices.* March.

El Dorado County Water Agency. 2007. *Water Resources Development and Management Plan.* Report No. EDCW06-001. December.

Kunreuther, H., C. Cyr, P. Grossi, and W. Tao. 2001. *Using Cost-Benefit Analysis to Evaluate Mitigation for Lifeline Systems.* National Science Foundation, Earthquake Engineering Research Centers Program.

National Research Council, Committee on Assessing and Valuing the Services of Aquatic and Related Terrestrial Ecosystems. 2004. *Valuing Ecosystem Services: Toward Better Environmental Decision-Making.* Washington, D.C.: National Academies Press.

Stewart, W.C. 1996. "Economic Assessment of the Ecosystem." *Sierra Nevada Ecosystem Project: Final Report to Congress, Vol. III, Assessment and Scientific Basis for Management Options.* Pacific Institute for Studies in Development, Environment, and Security. Oakland, CA.

Pocock, M., and C. Barker. 2005. "Placing a Value on Volunteer Time." *The Investigator.* RGK Center for Philanthropy and Community Service, Lyndon B. Johnson school of Public Affairs, University of Texas at Austin.

Wood Rodgers. 2008. *Grizzly Flats Community Services District Reconnaissance Study: Off-Stream Storage Reservoir Sites; Lincoln Hill and Spring Flat.* December.

U.S. Environmental Protection Agency, Office of the Administrator, Science Advisory Board. 2009. *Valuing the Protection of Ecological Systems and Services: A Report of the EPA Science Advisory Board*. Report No. EPA-SAB-09-012. May. Retrieved December 10, 2010, from http://yosemite.epa.gov/sab/sabproduct.nsf/WebBOARD/SAB-09-012/$File/SAB%20Advisory%20Report%20full%20web.pdf

U.S. Environmental Protection Agency. 2000. *Guidelines for Preparing Economic Analyses*. Report No. EPA 240-R-00-003. September. Retrieved December 10, 2010, from http://yosemite.epa.gov/ee/epa/eed.nsf/webpages/Guidelines.html/$file/Guidelines.pdf

VI. Project-Level Costs (Table 11)

Tables 11-A through 11-E present the project-level costs, as described above in Section IV.

Table 11-A Annual Cost of Project

(All costs should be in 2009 Dollars)

Project: Nevada City: Integrated Water-Shortage Contingency, Drought Preparedness, and Comprehensive Water-Conservation Project

	Initial Costs	Operations and Maintenance Costs [1]						Discounting Calculations	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
YEAR	Grand Total Cost From Table 7 (row (i), column(d))	Admin	Operation	Maintenance	Replacement	Other	Total Costs (a) +…+ (f)	Discount Factor	Discounted Costs(g) x (h)
2009							$0	1.000	$0
2010							$0	0.943	$0
2011	$253,003						$253,003	0.890	$225,173
2012	$1,016,600						$1,016,600	0.840	$853,944
2013	$108,887						$108,887	0.792	$86,239
2014							$0	0.747	$0
2015			$2,050	$600			$2,650	0.705	$1,868
2016							$0	0.665	$0
2017							$0	0.627	$0
2018				$500			$500	0.592	$296
2019							$0	0.558	$0
2020			$2,050	$100			$2,150	0.527	$1,133
2021							$0	0.497	$0
2022							$0	0.469	$0
2023							$0	0.442	$0
2024							$0	0.417	$0
2025			$2,050	$100			$2,150	0.394	$847
2026							$0	0.371	$0
2027							$0	0.350	$0
2028							$0	0.331	$0
2029							$0	0.312	$0
2030			$50	$100			$150	0.294	$44
2031							$0	0.278	$0
2032							$0	0.262	$0
2033							$0	0.247	$0
2034							$0	0.233	$0
2035			$50	$100			$150	0.220	$33
2036							$0	0.207	$0
2037							$0	0.196	$0
2038							$0	0.185	$0
2039							$0	0.174	$0
2040			$50	$100			$150	0.164	$25
2041							$0	0.155	$0
2042							$0	0.146	$0
2043							$0	0.138	$0
2044							$0	0.130	$0
2045							$0	0.123	$0
2046							$0	0.116	$0
2047							$0	0.109	$0
2048							$0	0.103	$0
2049							$0	0.097	$0
2050							$0	0.092	$0
2051							$0	0.087	$0
2052							$0	0.082	$0
2053							$0	0.077	$0
2054							$0	0.073	$0
2055							$0	0.069	$0
2056							$0	0.065	$0
2057							$0	0.061	$0
2058							$0	0.058	$0
Project Life	$1,378,490	$0	$6,300	$1,600	$0	$0	$1,386,390	…	
							Total Present Value of Discounted Costs (Sum of Column (i))		$1,169,601
							Transfer to Table 20, column (c), Exhibit F: Proposal Costs and Benefits Summaries		

Comments: See narrative description in Attachment 7 for a description of these costs.

(1) The incremental change in O&M costs attributable to the project.

Table 11-B Annual Cost of Project

(All costs should be in 2009 Dollars)

Project: Washington County Water District: Integrated Water-Shortage Contingency, Drought Preparedness, and Comprehensive Water-Conservation Program

	Initial Costs	Operations and Maintenance Costs [1]						Discounting Calculations	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
YEAR	Grand Total Cost From Table 7 (row (i), column(d))	Admin	Operation	Maintenance	Replacement	Other	Total Costs (a) +...+ (f)	Discount Factor	Discounted Costs(g) x (h)
2009							$0	1.000	$0
2010							$0	0.943	$0
2011	$245,109						$245,109	0.890	$218,147
2012	$1,109,366						$1,109,366	0.840	$931,867
2013	$52,436		$200				$52,636	0.792	$41,688
2014							$0	0.747	$0
2015							$0	0.705	$0
2016							$0	0.665	$0
2017			$400	$900			$1,300	0.627	$815
2018							$0	0.592	$0
2019							$0	0.558	$0
2020				$1,500			$1,500	0.527	$791
2021							$0	0.497	$0
2022			$400	$1,900			$2,300	0.469	$1,079
2023							$0	0.442	$0
2024							$0	0.417	$0
2025				$1,500			$1,500	0.394	$591
2026							$0	0.371	$0
2027			$400	$900			$1,300	0.350	$455
2028							$0	0.331	$0
2029							$0	0.312	$0
2030				$2,000			$2,000	0.294	$588
2031							$0	0.278	$0
2032			$400	$1,900			$2,300	0.262	$603
2033							$0	0.247	$0
2034							$0	0.233	$0
2035				$2,000			$2,000	0.220	$440
2036							$0	0.207	$0
2037							$0	0.196	$0
2038							$0	0.185	$0
2039							$0	0.174	$0
2040							$0	0.164	$0
2041							$0	0.155	$0
2042							$0	0.146	$0
2043							$0	0.138	$0
2044							$0	0.130	$0
2045							$0	0.123	$0
2046							$0	0.116	$0
2047							$0	0.109	$0
2048							$0	0.103	$0
2049							$0	0.097	$0
2050							$0	0.092	$0
2051							$0	0.087	$0
2052							$0	0.082	$0
2053							$0	0.077	$0
2054							$0	0.073	$0
2055							$0	0.069	$0
2056							$0	0.065	$0
2057							$0	0.061	$0
2058							$0	0.058	$0
Project Life	$1,406,911	$0	$1,800	$12,600	$0	$0	$1,421,311	...	
							Total Present Value of Discounted Costs (Sum of Column (i))		$1,197,063
							Transfer to Table 20, column (c), Exhibit F: Proposal Costs and Benefits Summaries		

Comments: See narrative description in Attachment 7 for a description of these costs.

(1) The incremental change in O&M costs attributable to the project.

Table 11-C Annual Cost of Project

(All costs should be in 2009 Dollars)

Project: Grizzly Flats Integrated Water Shortage Contingency, Drought Preparadness, and Comprehensive Water Conservation Planning Program

	Initial Costs	Operations and Maintenance Costs [1]						Discounting Calculations	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
YEAR	Grand Total Cost From Table 7 (row (i), column(d))	Admin	Operation	Maintenance	Replacement	Other	Total Costs (a) +...+ (f)	Discount Factor	Discounted Costs(g) x (h)
2009							$0	1.000	$0
2010							$0	0.943	$0
2011	$48,873						$48,873	0.890	$43,497
2012	$286,348						$286,348	0.840	$240,532
2013	$630,105						$630,105	0.792	$499,043
2014							$0	0.747	$0
2015				$2,925			$2,925	0.705	$2,062
2016							$0	0.665	$0
2017							$0	0.627	$0
2018							$0	0.592	$0
2019							$0	0.558	$0
2020				$2,925			$2,925	0.527	$1,541
2021							$0	0.497	$0
2022							$0	0.469	$0
2023				$5,000			$5,000	0.442	$2,210
2024							$0	0.417	$0
2025				$2,925			$2,925	0.394	$1,152
2026							$0	0.371	$0
2027							$0	0.350	$0
2028							$0	0.331	$0
2029							$0	0.312	$0
2030				$2,925			$2,925	0.294	$860
2031							$0	0.278	$0
2032							$0	0.262	$0
2033				$10,000			$10,000	0.247	$2,470
2034							$0	0.233	$0
2035							$0	0.220	$0
2036							$0	0.207	$0
2037							$0	0.196	$0
2038							$0	0.185	$0
2039							$0	0.174	$0
2040							$0	0.164	$0
2041							$0	0.155	$0
2042							$0	0.146	$0
2043				$5,000			$5,000	0.138	$690
2044							$0	0.130	$0
2045							$0	0.123	$0
2046							$0	0.116	$0
2047							$0	0.109	$0
2048							$0	0.103	$0
2049							$0	0.097	$0
2050							$0	0.092	$0
2051							$0	0.087	$0
2052							$0	0.082	$0
2053				$10,000			$10,000	0.077	$770
2054							$0	0.073	$0
2055							$0	0.069	$0
2056							$0	0.065	$0
2057							$0	0.061	$0
2058							$0	0.058	$0
2059							$0	0.054	$0
2060							$0	0.051	$0
2061							$0	0.048	$0
2062							$0	0.046	$0
2063				5000			$5,000	0.043	$215
Project Life									
							Total Present Value of Discounted Costs (Sum of Column (i))		$795,043
							Transfer to Table 20, column (c), Exhibit F: Proposal Costs and Benefits Summaries		

Comments: See narrative description in Attachment 7 for a description of these costs.

(1) The incremental change in O&M costs attributable to the project.

Table 11-D Annual Cost of Project

(All costs should be in 2009 Dollars)

Project: Alta & Colfax Customer-Based Conservation and Plumbing-Fixture Retrofit Program Implementation

	Initial Costs	Operations and Maintenance Costs [1]						Discounting Calculations	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
YEAR	Grand Total Cost From Table 7 (row (i), column(d))	Admin	Operation	Maintenance	Replacement	Other	Total Costs (a) +…+ (f)	Discount Factor	Discounted Costs(g) x (h)
2009							$0	1.000	$0
2010							$0	0.943	$0
2011	$237,168						$237,168	0.890	$211,079
2012	$19,016						$19,016	0.840	$15,973
2013	$18,417						$18,417	0.792	$14,586
2014							$0	0.747	$0
2015				$20,925			$20,925	0.705	$14,752
2016				$20,925			$20,925	0.665	$13,915
2017				$20,925			$20,925	0.627	$13,120
2018				$20,925			$20,925	0.592	$12,388
2019							$0	0.558	$0
2020							$0	0.527	$0
2021							$0	0.497	$0
2022							$0	0.469	$0
2023							$0	0.442	$0
2024							$0	0.417	$0
2025							$0	0.394	$0
2026							$0	0.371	$0
2027							$0	0.350	$0
2028							$0	0.331	$0
2029							$0	0.312	$0
2030							$0	0.294	$0
2031							$0	0.278	$0
2032							$0	0.262	$0
2033							$0	0.247	$0
2034							$0	0.233	$0
2035							$0	0.220	$0
2036							$0	0.207	$0
2037							$0	0.196	$0
2038							$0	0.185	$0
2039							$0	0.174	$0
2040							$0	0.164	$0
2041							$0	0.155	$0
2042							$0	0.146	$0
2043							$0	0.138	$0
2044							$0	0.130	$0
2045							$0	0.123	$0
2046							$0	0.116	$0
2047							$0	0.109	$0
2048							$0	0.103	$0
2049							$0	0.097	$0
2050							$0	0.092	$0
2051							$0	0.087	$0
2052							$0	0.082	$0
2053							$0	0.077	$0
2054							$0	0.073	$0
2055							$0	0.069	$0
2056							$0	0.065	$0
2057							$0	0.061	$0
2058							$0	0.058	$0
2059							$0	0.054	$0
2060							$0	0.051	$0
2061							$0	0.048	$0
2062							$0	0.046	$0
2063							$0	0.043	$0
2064							$0	0.041	$0
Project Life	$274,600	$0	$0	$83,700	$0	$0	$358,300	…	
							Total Present Value of Discounted Costs (Sum of Column (i))		$295,813
							Transfer to Table 20, column (c), Exhibit F: Proposal Costs and Benefits Summaries		

Comments: See narrative description in Attachment 7 for a description of these costs.

(1) The incremental change in O&M costs attributable to the project.

Table 11-E Annual Cost of Project

(All costs should be in 2009 Dollars)

Project: CABY Water Trust, American Rivers

	Initial Costs	Operations and Maintenance Costs [1]						Discounting Calculations	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
YEAR	Grand Total Cost From Table 7 (row (i), column(d))	Admin	Operation	Maintenance	Replacement	Other	Total Costs (a) +…+ (f)	Discount Factor	Discounted Costs(g) x (h)
2009							$0	1.000	$0
2010							$0	0.943	$0
2011	$26,268						$26,268	0.890	$23,379
2012	$87,922						$87,922	0.840	$73,854
2013	$104,321						$104,321	0.792	$82,622
2014							$0	0.747	$0
2015							$0	0.705	$0
2016							$0	0.665	$0
2017							$0	0.627	$0
2018							$0	0.592	$0
2019							$0	0.558	$0
2020							$0	0.527	$0
2021							$0	0.497	$0
2022							$0	0.469	$0
2023							$0	0.442	$0
2024							$0	0.417	$0
2025							$0	0.394	$0
2026							$0	0.371	$0
2027							$0	0.350	$0
2028							$0	0.331	$0
2029							$0	0.312	$0
2030							$0	0.294	$0
2031							$0	0.278	$0
2032							$0	0.262	$0
2033							$0	0.247	$0
2034							$0	0.233	$0
2035							$0	0.220	$0
2036							$0	0.207	$0
2037							$0	0.196	$0
2038							$0	0.185	$0
2039							$0	0.174	$0
2040							$0	0.164	$0
2041							$0	0.155	$0
2042							$0	0.146	$0
2043							$0	0.138	$0
2044							$0	0.130	$0
2045							$0	0.123	$0
2046							$0	0.116	$0
2047							$0	0.109	$0
2048							$0	0.103	$0
2049							$0	0.097	$0
2050							$0	0.092	$0
2051							$0	0.087	$0
2052							$0	0.082	$0
2053							$0	0.077	$0
2054							$0	0.073	$0
2055							$0	0.069	$0
2056							$0	0.065	$0
2057							$0	0.061	$0
2058							$0	0.058	$0
Project Life								…	
							Total Present Value of Discounted Costs (Sum of Column (i))		$179,855
							Transfer to Table 20, column (c), Exhibit F: Proposal Costs and Benefits Summaries		

Comments: See narrative description in Attachment 7 for a description of these costs.

(1) The incremental change in O&M costs attributable to the project.

VII. Project-Level Water-Supply Benefits (Table 12)

Tables 12-A through 12-E present the project-level water-supply benefits, as described above in Section IV.

Table 12 -A Annual Water Supply Benefits
(All benefits should be in 2009 dollars)
Project: Nevada City: Integrated Water-Shortage Contingency, Drought Preparedness, and Comprehensive Water-Conservation Project

(a) Year	(b) Type of Benefit	(c) Measure of Benefit (Units)	(d) Without Project	(e) With Project	(f) Change Resulting from Project (e) – (d)	(g) Unit $ Value (1)	(h) Annual $ Value (f) x (g) (1)	(i) Discount Factor (1)	(j) Discounted Benefits (h) x (i) (1)
2009	No benefit				0		$0	1.000	$0
2010	No benefit				0		$0	0.943	$0
2011	No benefit				0		$0	0.890	$0
2012	Avoided costs associated with a reduction in purchases of raw water	Acre-feet of water	0	67.1	67.14	$195	$13,092	0.840	$10,998
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Acre-feet of water	0	143.2	143.2	$69	$9,881	0.840	$8,300
2013	Avoided costs associated with a reduction in purchases of raw water	Acre-feet of water	0	63.0	63	$195	$12,285	0.792	$9,730
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Acre-feet of water	0	130.7	130.7	$69	$9,018	0.792	$7,142
2014	Avoided costs associated with a reduction in purchases of raw water	Acre-feet of water	0	60.9	60.85	$195	$11,866	0.747	$8,864
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Acre-feet of water	0	124.3	124.3	$69	$8,577	0.747	$6,407
2015	Avoided costs associated with a reduction in purchases of raw water	Acre-feet of water	0	59.7	59.72	$195	$11,645	0.705	$8,210
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Acre-feet of water	0	120.9	120.9	$69	$8,342	0.705	$5,881
2016	Avoided costs associated with a reduction in purchases of raw water	Acre-feet of water	0	59.0	59.04	$195	$11,513	0.665	$7,656
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Acre-feet of water	0	118.9	118.9	$69	$8,204	0.665	$5,456
2017	Avoided costs associated with a reduction in purchases of raw water	Acre-feet of water	0	58.6	58.64	$195	$11,435	0.627	$7,170
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Acre-feet of water	0	117.7	117.7	$69	$8,121	0.627	$5,092
2018	Avoided costs associated with a reduction in purchases of raw water	Acre-feet of water	0	58.4	58.36	$195	$11,380	0.592	$6,737
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Acre-feet of water	0	116.9	116.85	$69	$8,063	0.592	$4,773
2019	Avoided costs associated with a reduction in purchases of raw water	Acre-feet of water	0	57.8	57.79	$195	$11,269	0.558	$6,288
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Acre-feet of water	0	115.2	115.15	$69	$7,945	0.558	$4,434
2020	Avoided costs associated with a reduction in purchases of raw water	Acre-feet of water	0	57.8	57.79	$195	$11,269	0.527	$5,939
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Acre-feet of water	0	115.2	115.15	$69	$7,945	0.527	$4,187
2021	Avoided costs associated with a reduction in purchases of raw water	Acre-feet of water	0	57.8	57.79	$195	$11,269	0.497	$5,601
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Acre-feet of water	0	115.2	115.15	$69	$7,945	0.497	$3,949
2022	Avoided costs associated with a reduction in purchases of raw water	Acre-feet of water	0	57.8	57.79	$195	$11,269	0.469	$5,285
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Acre-feet of water	0	115.2	115.15	$69	$7,945	0.469	$3,726
2023	Avoided costs associated with a reduction in purchases of raw water	Acre-feet of water	0	57.8	57.79	$195	$11,269	0.442	$4,981
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Acre-feet of water	0	115.2	115.15	$69	$7,945	0.442	$3,512
2024	Avoided costs associated with a reduction in purchases of raw water	Acre-feet of water	0	57.8	57.79	$195	$11,269	0.417	$4,699
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Acre-feet of water	0	115.2	115.15	$69	$7,945	0.417	$3,313
2025	Avoided costs associated with a reduction in purchases of raw water	Acre-feet of water	0	57.8	57.79	$195	$11,269	0.394	$4,440

	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Acre-feet of water	0	115.2	115.15	$69	$7,945	0.394	$3,130
2026	Avoided costs associated with a reduction in purchases of raw water	Acre-feet of water	0	57.8	57.79	$195	$11,269	0.371	$4,181
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Acre-feet of water	0	115.2	115.15	$69	$7,945	0.371	$2,948
2027	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.350	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2028	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.331	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2029	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.312	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2030	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.294	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2031	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.278	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2032	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.262	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2033	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.247	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2034	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.233	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2035	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.220	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2036	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.207	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2037	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.196	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2038	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.185	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2039	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.174	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2040	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.164	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							

2041	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.155	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2042	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.146	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2043	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.138	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2044	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.130	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2045	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.123	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2046	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.116	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2047	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.109	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2048	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.103	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2049	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.097	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2050	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.092	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2051	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.087	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2052	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.082	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2053	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.077	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2054	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.073	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2055	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.069	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2056	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.065	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							

	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2057	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.061	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
2058	Avoided costs associated with a reduction in purchases of raw water	Unquantifiable (See Narrative Text)						0.058	
	Increased water for wildfire-fighting purposes	Unquantifiable (See Narrative Text)							
	Increased instream flows for environmental and other purposes	Unquantifiable (See Narrative Text)							
Project Life									
								Total Present Value of Discounted Benefits Based on Unit Value (Sum of the values in Column (j) for all Benefits shown in table)	**$173,028**
Comments: See narrative description in Attachment 7 for a description of these benefits.									

(1) *Complete these columns if dollar value is being claimed for the benefit.*

Table 12 -B Annual Water Supply Benefits

(All benefits should be in 2009 dollars)

Project: Washington County Water District: Integrated Water-Shortage Contingency, Drought Preparedness, and Comprehensive Water-Conservation Program

(a) Year	(b) Type of Benefit	(c) Measure of Benefit (Units)	(d) Without Project	(e) With Project	(f) Change Resulting from Project (e) – (d)	(g) Unit $ Value (1)	(h) Annual $ Value (f) x (g) (1)	(i) Discount Factor (1)	(j) Discounted Benefits (h) x (i) (1)
2009	No benefit				0		$0	1.000	$0
2010	No benefit				0		$0	0.943	$0
2011	No benefit				0		$0	0.890	$0
2012	Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Acre-feet of water	0	1.6	1.6	$69	$110	0.84	$93
2013	Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Acre-feet of water	0	0.9	0.9	$69	$62	0.792	$49
2014	Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Acre-feet of water	0	0.5	0.5	$69	$35	0.747	$26
2015	Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Acre-feet of water	0	0.3	0.3	$69	$21	0.705	$15
2016	Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Acre-feet of water	0	0.2	0.2	$69	$14	0.665	$9
2017	Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Acre-feet of water	0	0.1	0.1	$69	$7	0.627	$4
2018	Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Acre-feet of water	0	0.1	0.1	$69	$7	0.592	$4
2019	Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Acre-feet of water	0	0.01	0.01	$69	$1	0.558	$0
2020	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.527	
2021	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.497	
2022	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.469	
2023	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.442	
2024	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.417	
2025	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.394	
2026	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.371	
2027	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.350	
2028	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.331	
2029	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.312	
2030	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.294	
2031	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.278	

2032	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.262	
2033	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.247	
2034	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.233	
2035	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.220	
2036	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.207	
2037	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.196	
2038	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.185	
2039	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.174	
2040	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.164	
2041	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.155	
2042	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.146	
2043	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.138	
2044	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.130	
2045	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.123	
2046	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.116	
2047	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.109	
2048	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.103	
2049	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.097	
2050	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.092	
2051	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.087	
2052	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.082	
2053	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.077	
2054	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.073	

2055	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.069	
2056	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.065	
2057	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.061	
2058	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unquantifiable (See Narrative Text)				$69		0.058	
Project Life									
								Total Present Value of Discounted Benefits Based on Unit Value (Sum of the values in Column (j) for all Benefits shown in table)	**$200**
Comments: See narrative description in Attachment 7 for a description of these benefits									

[1] *Complete these columns if dollar value is being claimed for the benefit.*

Table 12 -C Annual Water Supply Benefits

(All benefits should be in 2009 dollars)

Project: Grizzly Flats Community Services District: Integrated Water Shortage Contingency, Drought Preparadness, and Comprehensive Water Conservation Planning Program

(a) Year	(b) Type of Benefit	(c) Measure of Benefit (Units)	(d) Without Project	(e) With Project	(f) Change Resulting from Project (e) – (d)	(g) Unit $ Value (1)	(h) Annual $ Value (f) x (g) (1)	(i) Discount Factor (1)	(j) Discounted Benefits (h) x (i) (1)
2009	No benefit				0		$0	1.000	$0
2010	No benefit				0		$0	0.943	$0
2011	No benefit								
2012	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.840	$536
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.840	$609
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2013	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.792	$506
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.792	$574
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2014	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.747	$477
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.747	$541
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2015	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.705	$450
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.705	$511
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2016	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.665	$425
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.665	$482
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2017	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.627	$400
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.627	$454
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2018	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.592	$378
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.592	$429
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2019	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.558	$356
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.558	$404
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2020	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.527	$336
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.527	$382
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2021	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.497	$317
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.497	$360
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2022	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.469	$299
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.469	$340
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2023	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.442	$282
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.442	$320
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2024	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.417	$266
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.417	$302
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2025	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.394	$252
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.394	$285
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2026	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.371	$237

	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.371	$269
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2027	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.350	$223
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.350	$254
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2028	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.331	$211
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.331	$240
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2029	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.312	$199
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.312	$226
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2030	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.294	$188
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.294	$213
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2031	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.278	$177
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.278	$201
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2032	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.262	$167
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.262	$190
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2033	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.247	$158
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.247	$179
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2034	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.233	$149
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.233	$169
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2035	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.220	$140
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.220	$159
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2036	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.207	$132
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.207	$150
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2037	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.196	$125
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.196	$142
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2038	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.185	$118
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.185	$134
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2039	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.174	$111
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.174	$126
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2040	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.164	$105
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.164	$119
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2041	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.155	$99
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.155	$112
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2042	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.146	$93
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.146	$106

	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2043	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.138	$88
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.138	$100
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2044	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.130	$83
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.130	$94
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2045	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.123	$79
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.123	$89
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2046	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.116	$74
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.116	$84
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2047	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.109	$70
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.109	$79
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2048	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.103	$66
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.103	$75
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2049	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.097	$62
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.097	$70
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2050	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.092	$59
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.092	$67
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2051	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.087	$56
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.087	$63
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2052	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.082	$52
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.082	$59
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2053	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.077	$49
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.077	$56
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2054	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.073	$47
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.073	$53
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2055	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.069	$44
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.069	$50
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2056	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.065	$41
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.065	$47
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2057	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.061	$39
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.061	$44
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2058	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.058	$37
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.058	$42
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							

2059	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.054	$34
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.054	$39
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2060	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.051	$33
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.051	$37
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
2061	Increased water supply for municipal purposes	Acre-feet of water	0	5.7	5.7	$112	$638	0.048	$31
	Increased instream flow for environmental and other purposes	Acre-feet of water	0	10.5	10.5	$69	$725	0.048	$35
	Increased water supply for fire fighting	Unquantifiable (See Narrative Text)							
Project Life									
								Total Present Value of Discounted Benefits Based on Unit Value (Sum of the values in Column (j) for all Benefits shown in table)	**$19,121**
Comments: See narrative description in Attachment 7 for a description of these benefits.									

(1) Complete these columns if dollar value is being claimed for the benefit.

Table 12 -D Annual Water Supply Benefits
(All benefits should be in 2009 dollars)
Project: Alta & Colfax Customer-Based Conservation and Plumbing-Fixture Retrofit Program Implementation

(a) Year	(b) Type of Benefit	(c) Measure of Benefit (Units)	(d) Without Project	(e) With Project	(f) Change Resulting from Project (e) – (d)	(g) Unit $ Value (1)	(h) Annual $ Value (f) x (g) (1)	(i) Discount Factor (1)	(j) Discounted Benefits (h) x (i) (1)
2009	No benefit				0		$0	1.000	$0
2010	No benefit				0		$0	0.943	$0
2011	Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Acre-feet per year	0	18.5	18.5	$69	$1,275	0.890	$1,135
2012	Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Acre-feet per year	0	10.2	10.2	$69	$701	0.840	$589
2013	Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Acre-feet per year	0	6.0	6.0	$69	$414	0.792	$328
2014	Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Acre-feet per year	0	3.8	3.8	$69	$260	0.747	$194
2015	Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Acre-feet per year	0	2.5	2.5	$69	$169	0.705	$119
2016	Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Acre-feet per year	0	1.6	1.6	$69	$114	0.665	$76
2017	Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Acre-feet per year	0	1.1	1.1	$69	$78	0.627	$49
2018	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2019	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2020	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2021	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2022	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2023	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2024	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2025	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2026	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2027	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2028	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2029	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2030	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2031	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2032	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2033	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2034	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2035	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2036	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2037	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2038	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							

2039	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2040	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2041	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2042	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2043	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2044	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2045	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2046	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2047	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2048	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2049	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2050	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2051	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2052	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2053	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2054	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2055	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2056	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2057	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
2058	Potential Increased Instream Flow for Municipal, Agricultural, Environmental, and/or Hydropower Production Purposes	Unqantifiable (see Narrative Text)							
Project Life								...	
								Total Present Value of Discounted Benefits Based on Unit Value (Sum of the values in Column (j) for all Benefits shown in table)	**$2,490**
Comments: See narrative description in Attachment 7 for a description of these benefits.									

(1) Complete these columns if dollar value is being claimed for the benefit.

VIII. Other Project-Level Water-Supply Benefits (Table 14)

Tables 14-A through 14-E present the other project-level water supply benefits, as described above in Section IV.

Table 14 - A Annual Other Water Supply Benefits

(All benefits should be in 2009 dollars)

Project: Nevada City: Integrated Water-Shortage Contingency, Drought Preparedness, and Comprehensive Water-Conservation Project

(a) Year	(b) Type of Benefit	(c) Description of Benefit	(d) Annual Benefits ($) (1)	(e) Discount Factor (1)	(f) Discounted Benefits (d) x (e) (1)
2009	No benefit			1.000	$0
2010	No benefit			0.943	$0
2011	No benefit			0.890	$0
2012	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$11,060	0.840	$9,290
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$15,000	0.840	$12,600
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	$12,150	0.840	$10,206
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2013	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$10,095	0.890	$8,985
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$15,000	0.890	$13,350
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	$12,150	0.890	$10,814
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2014	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$9,602	0.747	$7,173
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$15,000	0.747	$11,205
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	$12,150	0.747	$9,076
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2015	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$9,340	0.705	$6,585
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$15,000	0.705	$10,575
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	$12,150	0.705	$8,566
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2016	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$9,182	0.665	$6,106
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$15,000	0.665	$9,975
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	$12,150	0.665	$8,080
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		

	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2017	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$9,090	0.627	$5,699
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$15,000	0.627	$9,405
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	$12,150	0.627	$7,618
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2018	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$9,025	0.592	$5,343
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$15,000	0.592	$8,880
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	$12,150	0.592	$7,193
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2019	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$8,893	0.558	$4,962
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$15,000	0.558	$8,370
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	$12,150	0.558	$6,780
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2020	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$8,893	0.527	$4,687
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$15,000	0.527	$7,905
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	$12,150	0.527	$6,403
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2021	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$8,893	0.497	$4,420
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$15,000	0.497	$7,455
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	$12,150	0.497	$6,039
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2022	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$8,893	0.469	$4,171
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$15,000	0.469	$7,035

	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	$12,150	0.469	$5,698
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2023	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$8,893	0.442	$3,931
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$15,000	0.442	$6,630
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	$12,150	0.442	$5,370
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2024	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$8,893	0.417	$3,708
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$15,000	0.417	$6,255
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	$12,150	0.417	$5,067
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2025	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$8,893	0.394	$3,504
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$15,000	0.394	$5,910
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	$12,150	0.394	$4,787
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2026	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$8,893	0.371	$3,299
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$15,000	0.371	$5,565
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	$12,150	0.371	$4,508
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2027	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		

	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2028	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2029	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2030	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2031	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2032	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		

	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2033	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2034	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2035	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2036	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2037	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		

	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2038	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2039	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2040	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2041	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2042	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		

	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2043	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2044	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2045	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2046	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		

2047	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2048	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2049	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2050	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2051	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		

	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2052	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2053	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2054	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2055	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2056	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		

	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2057	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2058	Reduced water treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for Nevada City's current base of 1,350 customers.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce Nevada City's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
Project Life				…	
				Total Present Value of Discounted Benefits Based on Unit Value (Sum of the values in Column (f) for all Benefits shown in table)	**$319,181**
Comments: See narrative description in Attachment 7 for a description of these benefits.					

(1) Complete these columns if dollar value is being claimed for the benefit.

Table 14 - B Annual Other Water Supply Benefits

(All benefits should be in 2009 dollars)

Project: Washington County Water District: Integrated Water-Shortage Contingency, Drought Preparedness, and Comprehensive Water-Conservation Program

(a) Year	(b) Type of Benefit	(c) Description of Benefit	(d) 1	(e) Discount Factor (1)	(f) Discounted Benefits (d) x (e) (1)
2009	No benefit			1.000	$0
2010	No benefit			0.943	$0
2011	No benefit			0.890	$0
2012	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$470	0.840	$395
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$12,864	0.840	$10,806
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	$6,809	0.840	$5,720
	Avoided costs associated with infrastructure failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2013	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$258	0.792	$204
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$12,864	0.792	$10,188
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	$6,809	0.792	$5,393
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2014	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$153	0.747	$114
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$12,864	0.747	$9,609
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	$6,809	0.747	$5,086
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2015	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$96	0.705	$68
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$12,864	0.705	$9,069
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	$6,809	0.705	$4,800
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2016	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$62	0.665	$41
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$12,864	0.665	$8,555
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	$6,809	0.665	$4,528
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		

2017	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$42	0.627	$26
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$12,864	0.627	$8,066
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	$6,809	0.627	$4,269
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2018	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$29	0.592	$17
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$12,864	0.592	$7,615
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	$6,809	0.592	$4,031
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2019	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$12,864	0.558	$7,178
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	$15,776	0.558	$8,803
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2020	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$12,864	0.527	$6,779
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	$6,809	0.527	$3,588
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2021	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$12,864	0.497	$6,393
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	$6,809	0.497	$3,384
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2022	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$12,864	0.469	$6,033
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	$6,809	0.469	$3,193
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		

2023	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$12,864	0.442	$5,686
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	$6,809	0.442	$3,010
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2024	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$12,864	0.417	$5,364
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	$6,809	0.417	$2,839
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2025	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$12,864	0.394	$5,068
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	$6,809	0.394	$2,683
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2026	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with operations costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$12,864	0.371	$4,773
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	$6,809	0.371	$2,526
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2027	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	$6,809	0.350	$2,383
	Avoided costs associated with catastrophic failure	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
2028	Avoided costs associated with reduction in water-treatment costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$6,809	0.331	$2,254
	Avoided costs associated with catastrophic failure	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
2029	Avoided costs associated with reduction in water-treatment costs	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	$6,809	0.312	$2,124

	Avoided costs associated with catastrophic failure	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
2030	Avoided costs associated with reduction in water-treatment costs	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	$6,809	0.294	$2,002
	Avoided costs associated with catastrophic failure	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
2031	Avoided costs associated with reduction in water-treatment costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	$6,809	0.278	$1,893
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2032	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)	0.262	
	Avoided costs associated with catastrophic failure	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
2033	Avoided costs associated with reduction in water-treatment costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)	0.247	
	Avoided costs associated with improvements in water reliability	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
2034	Avoided costs associated with reduction in water-treatment costs	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)	0.233	
	Avoided costs associated with improvements in water reliability	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
2035	Avoided costs associated with reduction in water-treatment costs	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)	0.220	
	Avoided costs associated with improvements in water reliability	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
2036	Avoided costs associated with reduction in water-treatment costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)	0.207	
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		

2037	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)	0.196	
	Avoided costs associated with improvements in water reliability	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
2038	Avoided costs associated with reduction in water-treatment costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)	0.185	
	Avoided costs associated with improvements in water reliability	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
2039	Avoided costs associated with reduction in water-treatment costs	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)	0.174	
	Avoided costs associated with improvements in water reliability	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
2040	Avoided costs associated with reduction in water-treatment costs	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)	0.164	
	Avoided costs associated with improvements in water reliability	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
2041	Avoided costs associated with reduction in water-treatment costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)	0.155	
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2042	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)	0.146	
	Avoided costs associated with improvements in water reliability	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
2043	Avoided costs associated with reduction in water-treatment costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)	0.138	
	Avoided costs associated with improvements in water reliability	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
2044	Avoided costs associated with reduction in water-treatment costs	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)	0.130	
	Avoided costs associated with improvements in water reliability	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		

	Avoided costs associated with catastrophic failure	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
2045	Avoided costs associated with reduction in water-treatment costs	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)	0.123	
	Avoided costs associated with improvements in water reliability	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
2046	Avoided costs associated with reduction in water-treatment costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)	0.116	
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
2047	Avoided costs associated with reduction in water-treatment costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)	0.109	
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2048	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)	0.103	
	Avoided costs associated with improvements in water reliability	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
2049	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)	0.097	
	Avoided costs associated with improvements in water reliability	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
2050	Avoided costs associated with reduction in water-treatment costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)	0.092	
	Avoided costs associated with improvements in water reliability	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)	0.087	
2051	Avoided costs associated with reduction in water-treatment costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		

	Avoided costs associated with improvements in water reliability	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)	0.082	
2052	Avoided costs associated with reduction in water-treatment costs	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)	0.077	
	Avoided costs associated with catastrophic failure	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
2053	Avoided costs associated with reduction in water-treatment costs	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)	0.073	
	Avoided costs associated with responding to emergency-supply restraints	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
2054	Avoided costs associated with reduction in water-treatment costs	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)	0.069	
	Avoided costs associated with responding to emergency-supply restraints	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
2055	Avoided costs associated with reduction in water-treatment costs	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)	0.065	
	Avoided costs associated with catastrophic failure	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
2056	Avoided costs associated with reduction in water-treatment costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)	0.061	
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
2057	Avoided costs associated with reduction in water-treatment costs	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)	0.058	
	Avoided costs associated with improvements in water reliability	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	By installing meters, replacing infrastructure, and repairing some leaks in its system, the project would reduce the likelihood of WCWD experiencing infrastructure failures.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with responding to emergency-supply restraints	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce WCWD's long-term capital improvement costs	Unquantifiable (See Narrative Text)		

2058	Avoided costs associated with reduction in water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with improvements in water reliability	Reduced operations per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with catastrophic failure	Avoided costs to 32 customers as a result of improved water reliability and water pressure meeting California state standards, using a value of $493 per household.	Unquantifiable (See Narrative Text)		
Project Life				…	
				Total Present Value of Discounted Benefits Based on Unit Value (Sum of the values in Column (f) for all Benefits shown in table)	**$186,559**
Comments: See narrative description in Attachment 7 for a description of these benefits.					

(1) Complete these columns if dollar value is being claimed for the benefit.

Table 14 -C Annual Other Water Supply Benefits

(All benefits should be in 2009 dollars)

Project: Grizzly Flats Community Services District: Integrated Water Shortage Contingency, Drought Preparadness, and Comprehensive Water Conservation Planning Program

(a) Year	(b) Type of Benefit	(c) Description of Benefit	(d) Annual Benefits ($) (1)	(e) Discount Factor (1)	(f) Discounted Benefits (d) x (e) (1)
2009	No benefit				$0
2010	No benefit				$0
2011	No benefit				$0
2012	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.840	$4,619
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.840	$11,760
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2013	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.890	$4,894
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.890	$12,460
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2014	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.747	$4,108
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.747	$10,458
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2015	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.705	$3,877
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.705	$9,870
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2016	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.665	$3,657
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.665	$9,310
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		

	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2017	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.627	$3,448
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.627	$8,778
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2018	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.592	$3,255
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.592	$8,288
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2019	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.558	$3,068
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.558	$7,812
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2020	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.527	$2,898
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.527	$7,378
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2021	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.497	$2,733
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.497	$6,958
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2022	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.469	$2,579
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.469	$6,566
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		

	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2023	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.442	$2,431
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.442	$6,188
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2024	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.417	$2,293
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.417	$5,838
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2025	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.394	$2,167
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.394	$5,516
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2026	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.371	$2,040
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.371	$5,194
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2027	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.350	$1,925
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.350	$4,900
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2028	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.331	$1,820
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.331	$4,634

	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2029	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.312	$1,716
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.312	$4,368
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2030	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.294	$1,617
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.294	$4,116
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2031	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	$5,499	0.278	$1,529
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.278	$3,892
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2032	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.262	$3,668
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2033	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.247	$3,458
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		

	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2034	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.233	$3,262
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2035	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.220	$3,080
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2036	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.207	$2,898
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2037	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.196	$2,744
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2038	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.185	$2,590
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		

2039	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.174	$2,436
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2040	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.164	$2,296
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2041	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.155	$2,170
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2042	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.146	$2,044
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2043	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.138	$1,932
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2044	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.130	$1,820

	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2045	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.123	$1,722
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2046	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.116	$1,624
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2047	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.109	$1,526
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2048	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.103	$1,442
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2049	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.097	$1,358
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		

	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2050	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.092	$1,288
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2051	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	After lining the reservoir, GFCSD would reduce its annual operations costs by $14,000 to $20,000 per year.	$14,000	0.087	$1,218
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2052	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2053	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2054	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2055	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		

	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2056	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2057	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2058	Avoided costs associated with improvements in water reliability	Based on the willingness to pay for an improvement in water-supply reliability for GFCSD's current base of 611 customers.	Unquantifiable (See Narrative Text)		
	Reduced water-treatment costs	Reduced water treatment costs per year from lining the pretreatment reservoir.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occuring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing the amount of water lost to leakage throughout the system and increasing the amount of information available, the project would have the potential to reduce GFCSD's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
Project Life					
				Total Present Value of Discounted Benefits Based on Unit Value (Sum of the values in Column (f) for all Benefits shown in table)	**$245,533**
Comments: See narrative description in Attachment 7 for a description of these benefits.					

(1) Complete these columns if dollar value is being claimed for the benefit.

Table 14 - D Annual Other Water Supply Benefits

(All benefits should be in 2009 dollars)

Project: Alta & Colfax Customer-Based Conservation and Plumbing-Fixture Retrofit Program Implementation

(a) Year	(b) Type of Benefit	(c) Description of Benefit	(d) Annual Benefits ($) (1)	(e) Discount Factor (1)	(f) Discounted Benefits (d) x (e) (1)
2009	No benefit				
2010	No benefit				
2011	No benefit				
2012	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$3,836	0.840	$3,222
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	$13,000	0.840	$10,920
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2013	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$3,430	0.792	$2,717
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2014	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$3,226	0.747	$2,410
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2015	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$3,116	0.705	$2,197
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2016	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$3,053	0.665	$2,030
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2017	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$3,013	0.627	$1,889
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	$13,000	0.627	$8,151
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2018	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$2,988	0.592	$1,769
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2019	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$2,933	0.558	$1,637
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2020	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$2,933	0.527	$1,546
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		

	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2021	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$2,933	0.497	$1,458
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2022	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$2,933	0.469	$1,376
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	$13,000	0.469	$6,097
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2023	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$2,933	0.442	$1,296
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2024	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$2,933	0.417	$1,223
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2025	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$2,933	0.394	$1,156
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2026	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	$2,933	0.371	$1,088
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2027	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2028	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2029	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2030	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		

	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2031	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2032	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2033	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2034	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2035	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2036	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2037	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2038	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2039	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2040	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		

	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2041	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2042	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2043	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2044	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2045	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2046	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2047	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2048	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2049	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2050	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		

	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2051	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2052	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2053	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2054	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2055	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2056	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2057	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
2058	Reduced water-treatment costs	Reduced water treatment costs per year from fixing leaking pipes and water-supply infrastructure.	Unquantifiable (See Narrative Text)		
	Reduced operations costs	By installing the leak detection system, the project would reduce PCWA's operations costs associated with its current system of detecting and locating leaks.	Unquantifiable (See Narrative Text)		
	Avoided costs associated with infrastructure failure	By locating and repairing leaks throughout the system on a regular basis, the project would reduce the potential of a catastrophic leak occurring.	Unquantifiable (See Narrative Text)		
	Reduced long-term capital improvement costs	By reducing water lost to leakage and increasing the amount of information, the project would potentially to reduce PCWA's long-term capital improvement costs.	Unquantifiable (See Narrative Text)		
Project Life					
			Total Present Value of Discounted Benefits Based on Unit Value (Sum of the values in Column (f) for all Benefits shown in table)		**$52,180**
Comments: See narrative description in Attachment 7 for a description of these benefits.					

(1) Complete these columns if dollar value is being claimed for the benefit.

Table 14-E Annual Other Water Supply Benefits

(All benefits should be in 2009 dollars)

Project: CABY Water Trust, American Rivers

(a) Year	(b) Type of Benefit	(c) Description of Benefit	(d) Annual Benefits ($) (1)	(e) Discount Factor (1)	(f) Discounted Benefits (d) x (e) (1)
2009	No benefit			1.000	
2010	No benefit			0.943	
2011	No benefit			0.890	
2012	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.840	
2013	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.792	
2014	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.747	
2015	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.705	
2016	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.665	
2017	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.627	
2018	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.592	
2019	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.558	
2020	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.527	
2021	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.497	
2022	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.469	
2023	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.442	
2024	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.417	
2025	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.394	
2026	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.371	

2027	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.350	
2028	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.331	
2029	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.312	
2030	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.294	
2031	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.278	
2032	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.262	
2033	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.247	
2034	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.233	
2035	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.220	
2036	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.207	
2037	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.196	
2038	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.185	
2039	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.174	
2040	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.164	
2041	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.155	
2042	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.146	
2043	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.138	
2044	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.130	

2045	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.123	
2046	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.116	
2047	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.109	
2048	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.103	
2049	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.097	
2050	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.092	
2051	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.087	
2052	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.082	
2053	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.077	
2054	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.073	
2055	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.069	
2056	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.065	
2057	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.061	
2058	Reduced costs associated with securing water for instream flow	The project would create a structure to support transfers of water from willing sellers to instream flow, which could lower the costs associated with providing instream flows for environmental purposes and meeting state-mandated instream-flow targets.	Unquantifiable (See Narrative Text)	0.058	
Project Life					
				Total Present Value of Discounted Benefits Based on Unit Value (Sum of the values in Column (f) for all Benefits shown in table)	
Comments: See narrative description in Attachment 7 for a description of these benefits.					

(1) Complete these columns if dollar value is being claimed for the benefit.

IX. Total Project-Level Water-Supply-Related Benefits (Table 15)

Tables 15-A through 15–E present the total project-level water-supply-related benefits, as described above in Section IV.

Table 15-A Total Water Supply Benefits

(All benefits should be in 2009 dollars)

Project: Nevada City: Integrated Water-Shortage Contingency, Drought Preparedness, and Comprehensive Water-Conservation Project

Total Discounted Water Supply Benefits (a)	Total Discounted Avoided Project Costs (b)	Other Discounted Water Supply Benefits (c)	Total Present Value of Discounted Benefits (d) (a) + (c) or (b) + (c)
$173,028	$0	$319,181	**$492,209**

Comments: See Tables 12 and 14 and the narrative text in Attachment 7 for a description of these benefits.

Table 15-B Total Water Supply Benefits (All benefits should be in 2009 dollars)			
Project: Washington County Water District: Integrated Water-Shortage Contingency, Drought Preparedness, and Comprehensive Water-Conservation Program			
Total Discounted Water Supply Benefits (a)	**Total Discounted Avoided Project Costs (b)**	**Other Discounted Water Supply Benefits (c)**	**Total Present Value of Discounted Benefits (d) (a) + (c) or (b) + (c)**
$200	$0	$186,559	**$186,759**
Comments: See Tables 12 and 14 and the narrative text in Attachment 7 for a description of these benefits.			

Table 15-C Total Water Supply Benefits

(All benefits should be in 2009 dollars)

Project: Grizzly Flats Community Services District: Integrated Water Shortage Contingency, Drought Preparadness, and Comprehensive Water Conservation Planning Program

Total Discounted Water Supply Benefits (a)	Total Discounted Avoided Project Costs (b)	Other Discounted Water Supply Benefits (c)	Total Present Value of Discounted Benefits (d) (a) + (c) or (b) + (c)
$19,121	$0	$245,533	**$264,654**

Comments: See Tables 12 and 14 and the narrative text in Attachment 7 for a description of these benefits.

Table 15-D Total Water Supply Benefits

(All benefits should be in 2009 dollars)

Project: Alta & Colfax Customer-Based Conservation and Plumbing-Fixture Retrofit Program Implementation

Total Discounted Water Supply Benefits (a)	Total Discounted Avoided Project Costs (b)	Other Discounted Water Supply Benefits (c)	Total Present Value of Discounted Benefits (d) (a) + (c) or (b) + (c)
$12,490	$0	$52,180	**$64,670**

Comments: See Tables 12 and 14 and the narrative text in Attachment 7 for a description of these benefits.

Table 15. Total Water Supply Benefits

(All benefits should be in 2009 dollars)

Project: CABY Water Trust, American Rivers

Total Discounted Water Supply Benefits (a)	Total Discounted Avoided Project Costs (b)	Other Discounted Water Supply Benefits (c)	Total Present Value of Discounted Benefits (d) (a) + (c) or (b) + (c)
$0	$0	Unquantifiable	Unquantifiable

Comments: See Tables 12 and 14 and the narrative text in Attachment 7 for a description of these benefits.